Issue 201
PS
1969 Series
THE
... CHECK MY WORK! WHY ???
TWO HEADS ARE BETTER THAN ONE
SEE PAGES 29-36
Will Eisner

LIFE INSURANCE

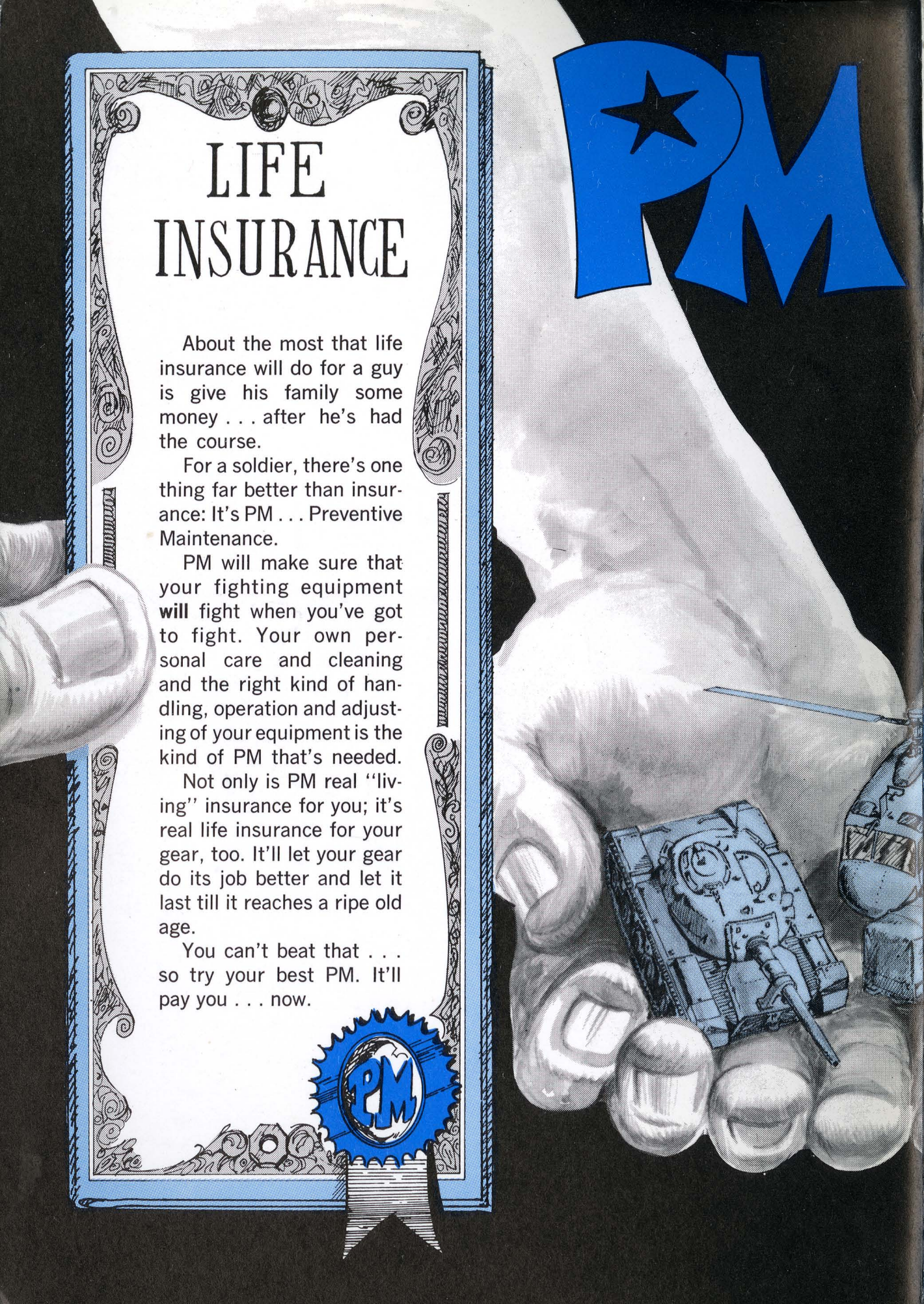
About the most that life insurance will do for a guy is give his family some money . . . after he's had the course.

For a soldier, there's one thing far better than insurance: It's PM . . . Preventive Maintenance.

PM will make sure that your fighting equipment **will** fight when you've got to fight. Your own personal care and cleaning and the right kind of handling, operation and adjusting of your equipment is the kind of PM that's needed.

Not only is PM real "living" insurance for you; it's real life insurance for your gear, too. It'll let your gear do its job better and let it last till it reaches a ripe old age.

You can't beat that . . . so try your best PM. It'll pay you . . . now.



LIFE INSURANCE

About the most that life insurance will do for a guy is give his family some money . . . after he's had the course.

For a soldier, there's one thing far better than insurance: It's PM . . . Preventive Maintenance.

PM will make sure that your fighting equipment **will** fight when you've got to fight. Your own personal care and cleaning and the right kind of handling, operation and adjusting of your equipment is the kind of PM that's needed.

Not only is PM real "living" insurance for you; it's real life insurance for your gear, too. It'll let your gear do its job better and let it last till it reaches a ripe old age.

You can't beat that . . . so try your best PM. It'll pay you . . . now.

PM IS BETTER

PS

Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from U. S. Army Maintenance Board, Attn.: PS Magazine, Fort Knox, Kentucky 40121.

THE PREVENTIVE MAINTENANCE MONTHLY
Issue No. 201 1969 Series

IN THIS ISSUE

GENERAL & SUPPLY

MWO's 2-5
V-Belts 6-9
First Aid Pouch 56-57
Litters 58-59
290M Tractor Fix 59
Hough Loader 60
Crawler Drills 60
M106 Mity Mite 61, 62
M2 Compass 62
Damaged Shipments 62
Visible Index 63
M17 Mask 64
New Publications 28
Supply 15, 17, 26, 40, 41, 43, 45, 51, 52.

FIREPOWER 10-17

M60 Machine Gun 10, 11
M37 Machine Gun 11
Nike-Hercules 12-15
M134 High Rate Gun 16-17

AIR MOBILITY 18-27

DA Form 2408-13 18-21
Cable Pulleys 22-23
U-1A Oil Leakage 24
U-8 25, 26
O-1 Engine 25
CH-47 Handy Tool 27

COMMUNICATIONS-ELECTRONICS 37-44

PRR-9 Radio 37
AN/GRC-50(V) 38-39
AN/TVS-2 Sight 40
AN/VRC-12 Radio 41, 45
AN/TPN-8, 18 Radar 42
CV-1548/G 43
AN/AAS-14A Detector Set 43
AN/MPQ-4A Radar 44
AN/TRC-24 Radio 44

GROUND MOBILITY 46-55

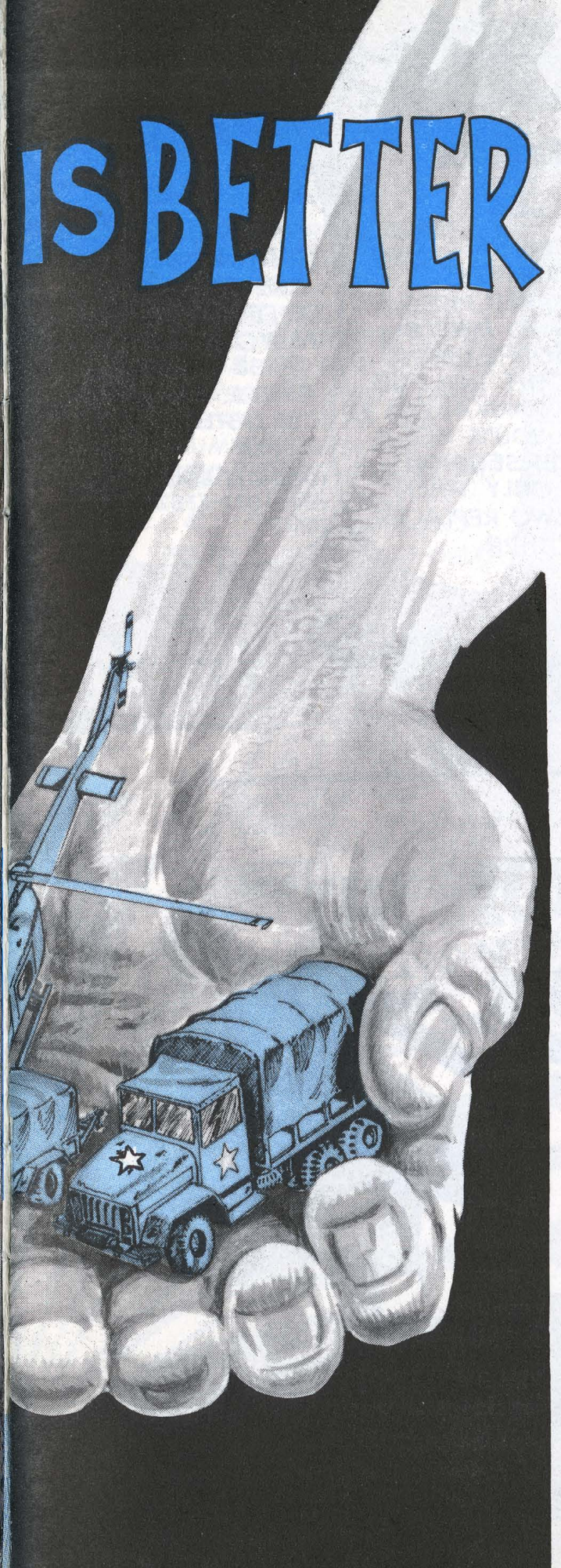
Multifuel Truck 46-49, 51, 55
Oil Bath Cleaners 50
M114, M114A1 51
Protective Devices 52
G-744 Series 5-Ton Trk 53
M51, M51A2 Dump Trk 54
12-Ton Semitrailer 54
Tank Trk, Semi-trailer 55

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 28 February 1968.

DISTRIBUTION: In accordance with requirements submitted on DA Form 12-4.

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

Sgt. Half-Mast,
P.S. Magazine,
Fort Knox, Ky.
40121



P.S

Published by the Department of the Army for the Information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from U. S. Army Maintenance Board, Attn.: PS Magazine, Fort Knox, Kentucky 40121.

THE **PREVENTIVE MAINTENANCE** MONTHLY

Issue No. 201 1969 Series

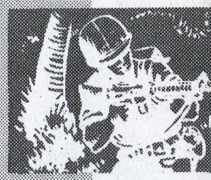
IN THIS ISSUE

GENERAL & SUPPLY

MWO's	2-5	M2 Compass	62
V-Belts	6-9	Damaged Shipments	62
First Aid Pouch	56-57	Visible Index	63
Litters	58-59	M17 Mask	64
290M Tractor Fix	59	New Publications	28
Hough Loader	60	Supply	15, 17, 26, 40, 41, 43, 45, 51, 52.
Crawler Drills	60		
M106 Mity Mite	61, 62		

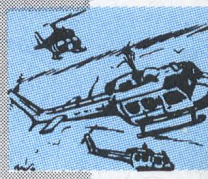
FIREPOWER 10-17

M60 Machine Gun	10, 11	Nike-Hercules	12-15
M37 Machine Gun	11	M134 High Rate Gun	16-17



AIR MOBILITY 18-27

DA Form 2408-13	18-21	U-8	25, 26
Cable Pulleys	22-23	O-1 Engine	25
U-1A Oil Leakage	24	CH-47 Handy Tool	27



COMMUNICATIONS-ELECTRONICS 37-44

PRR-9 Radio	37	CV-1548/G	43
AN/GRC-50(V)	38-39	AN/AAS-14A Detector Set	43
AN/TVS-2 Sight	40	AN/MPQ-4A Radar	44
AN/VRC-12 Radio	41, 45	AN/TRC-24 Radio	44
AN/TPN-8, 18 Radar	42		

GROUND MOBILITY 46-55

Multifuel Truck	46-49, 51, 55	G-744 Series 5-Ton Trk	53
Oil Bath Cleaners	50	M51, M51A2 Dump Trk	54
M114, M114A1	51	12-Ton Semitrailer	54
Protective Devices	52	Tank Trk, Semi-trailer	55

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 26 February 1968.

DISTRIBUTION: In accordance with requirements submitted on DA Form 12-4.

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

Sgt. Half-Mast,
PS Magazine,
Fort Knox, Ky.
40121

GENERAL & SUPPLY

YOUR MWO

SECTION I

HAS GENERAL INFORMATION!! ..LISTS OTHER PUBS RELATING TO MWO'S ...ITS "SCOPE" SHOWS HOW RECENT THIS PUB IS... AND PARA 4h (COL.8) MEANS YOU'LL SEE A SUPERSESSION NOTICE ONLY WHEN ONE MWO REPLACES ANOTHER.

SECTION II

LISTS THE **FSN** OR PART NUMBER OF THE EQUIPMENT AFFECTED BY THE **MWO**... SHOWS THE PAGE NUMBER WHERE YOU'LL FIND IT LISTED ... LIKE...

FSN	PAGE
1005-072-5011	5
1005-072-5382	6

Modification work order . . . That silent friend-in-need is there when your equipment gets hung up . . . Knowing if your poor ol' equipment needs an MWO is up to you . . . It's all in DA PAM 310-7, The U.S. Army Equipment Index of Modification Work Orders.

INSIDE THE DA PAMPHLET 310-7

FOLLOW ME AND I'LL TAKE YOU ON A QUICKIE TOUR THROUGH IT.

GENERAL & SUPPLY

YOUR MWO

Modification work order . . . That silent friend-in-need is there when your equipment gets hung up . . . Knowing if your poor ol' equipment needs an MWO is up to you . . . It's all in DA PAM 310-7, The U.S. Army Equipment Index of Modification Work Orders.

SECTION I

HAS GENERAL INFORMATION!! .. LISTS OTHER PUBS RELATING TO MWO'S ... ITS "SCOPE" SHOWS HOW RECENT THIS PUB IS ... AND PARA 4h (COL.8) MEANS YOU'LL SEE A SUPERSESSION NOTICE ONLY WHEN ONE MWO REPLACES ANOTHER.

SECTION II

LISTS THE **FSN** OR PART NUMBER OF THE EQUIPMENT AFFECTED BY THE **MWO** ... SHOWS THE PAGE NUMBER WHERE YOU'LL FIND IT LISTED ... LIKE ...

FSN	PAGE
1005-072-5011	5
1005-072-5382	6

SECTION III

IS A NUMERICAL LISTING OF **CURRENT MWO'S** ... LIKE ...

MWO NO.	DATE
9-1005-249-20/1	18 OCT 67
9-1015-230-30/2	6 OCT 67

CLASSIFIED MWO'S HAVE A CODE NEXT TO THE NUMBER SUCH AS:
SRD (SECRET- RESTRICTED DATA MWO)
C (CONFIDENTIAL)
FOUO (OFFICIAL USE ONLY).

SECTION IV

THIS SECTION OF YOUR INDEX IS FOR **URGENT MWO'S.**

SECTION V

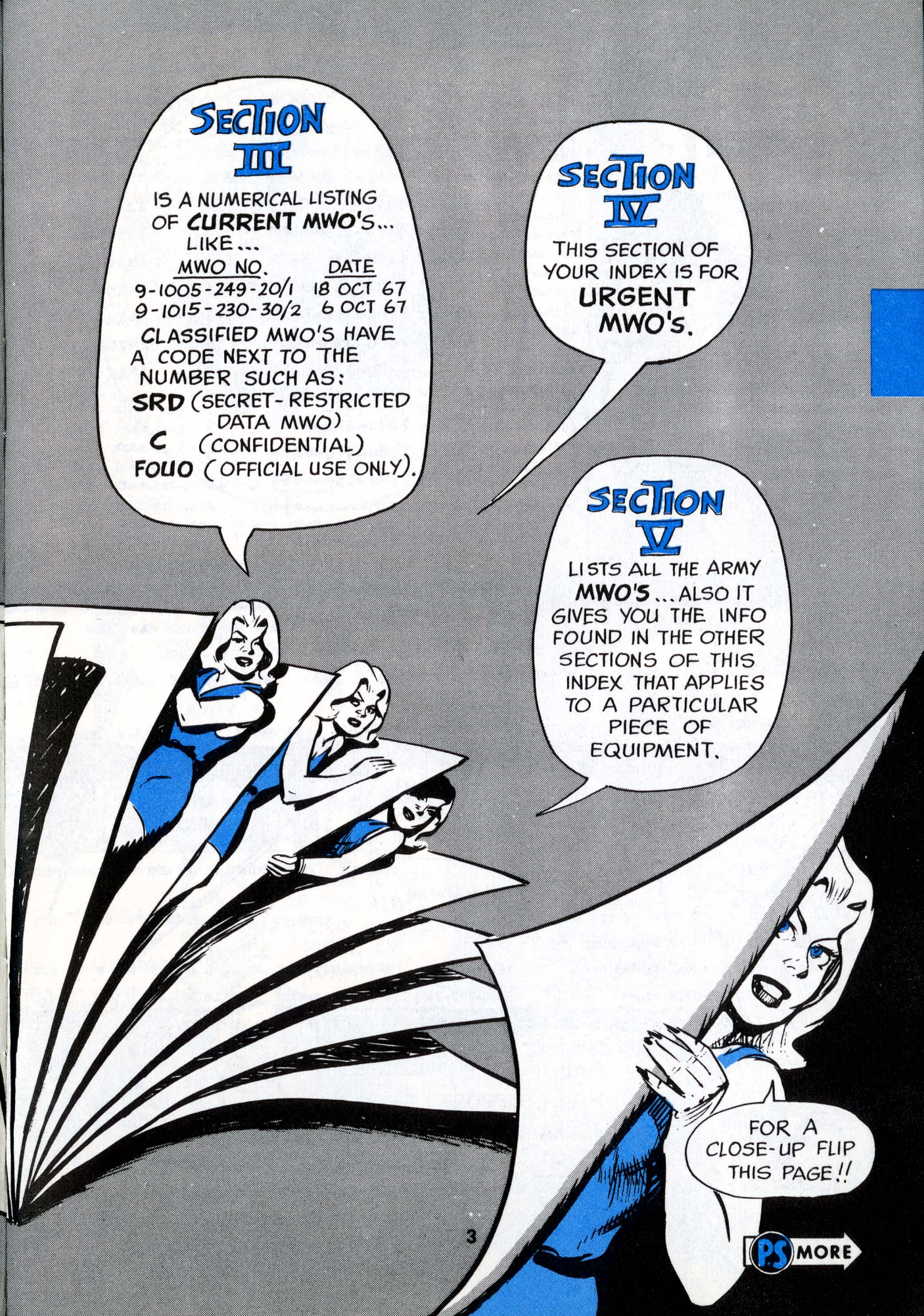
LISTS ALL THE ARMY **MWO'S** ... ALSO IT GIVES YOU THE INFO FOUND IN THE OTHER SECTIONS OF THIS INDEX THAT APPLIES TO A PARTICULAR PIECE OF EQUIPMENT.

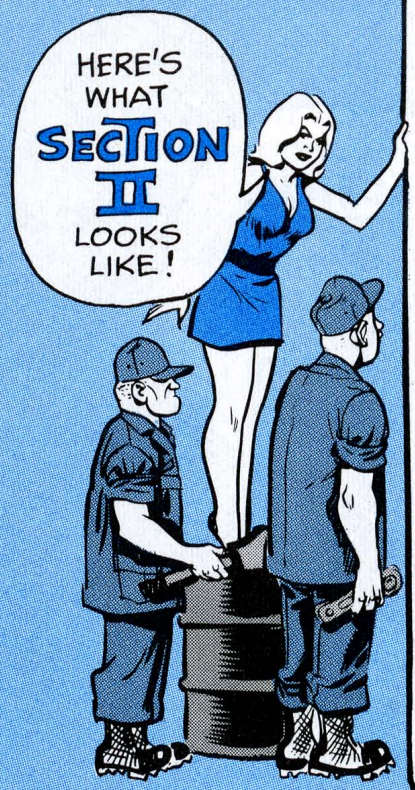
INSIDE THE DA PAMPHLET 310-7

FOLLOW ME AND I'LL TAKE YOU ON A QUICKIE TOUR THROUGH IT.

FOR A CLOSE-UP FLIP THIS PAGE!!

PS MORE


SECTION III
IS A NUMERICAL LISTING OF CURRENT MWO'S... LIKE...
MWO NO. DATE
9-1005-249-20/1 18 OCT 67
9-1015-230-30/2 6 OCT 67
CLASSIFIED MWO'S HAVE A CODE NEXT TO THE NUMBER SUCH AS:
SRD (SECRET-RESTRICTED DATA MWO)
C (CONFIDENTIAL)
FOUO (OFFICIAL USE ONLY).
SECTION IV
THIS SECTION OF YOUR INDEX IS FOR URGENT MWO'S.
SECTION V
LISTS ALL THE ARMY MWO'S... ALSO IT GIVES YOU THE INFO FOUND IN THE OTHER SECTIONS OF THIS INDEX THAT APPLIES TO A PARTICULAR PIECE OF EQUIPMENT.
FOR A CLOSE-UP FLIP THIS PAGE!!
P.S. MORE



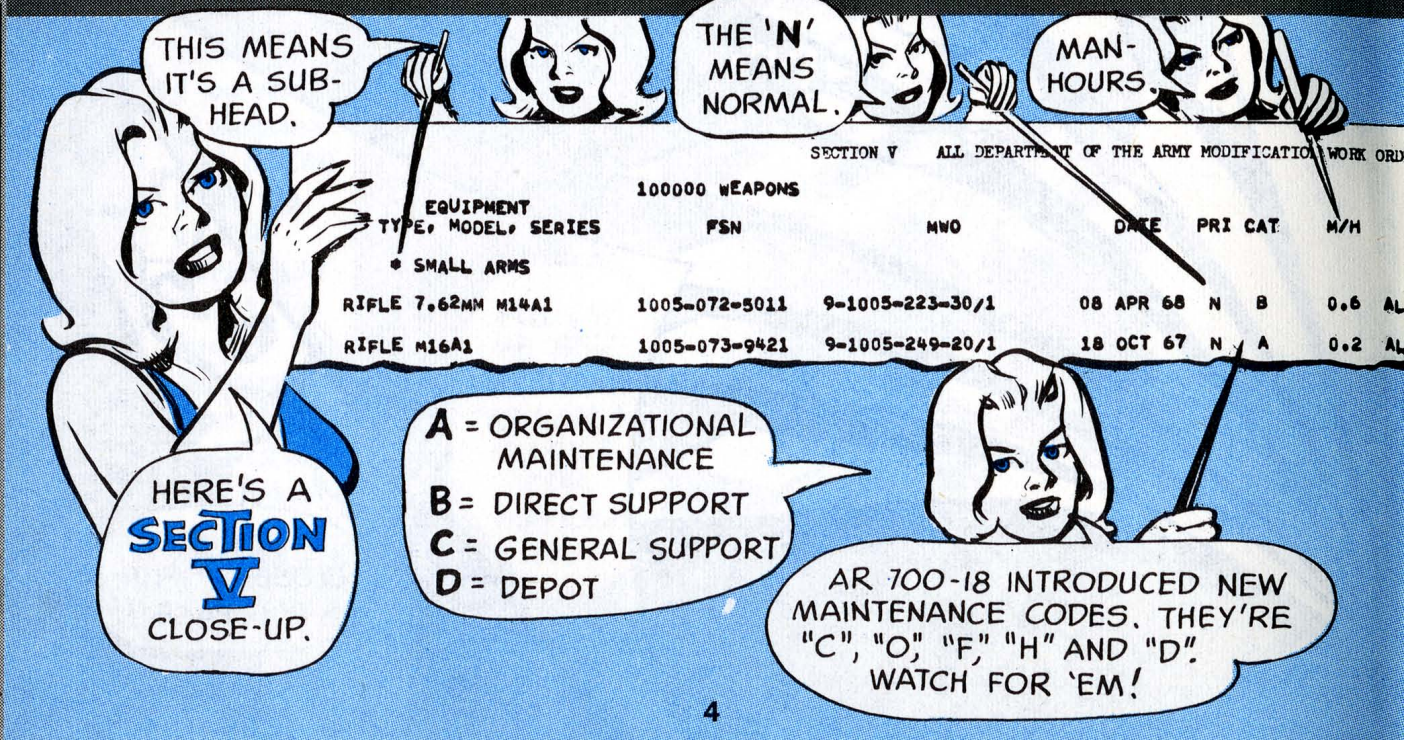
SECTION II. FEDERAL STOCK NUMBER AND PART NUMBER INDEX. INDEX OF

FSN	PAGE	FSN	PAGE	FSN	PAGE
1005-072-5011	5	FEDERAL STOCK NUMBER		1337-964-9393	301
1005-072-5382		FSN	PAGE	964-9394	302
1005-073-9007		1059-679-3-33	309	-9395	303
1005-073-9421	5	1061-542-0-29	312	5162	223
1005-086-H	6	1061-542-8-29	312	1 9	224
1005-605-	6	1102-610-8-59	311	133	225
1005-608	5	1102-610-8-79	311	1410	314
1005-60	6	1102-712-8-19	311	1410-	314
1005-67	6	1102-712-8-29	311	1410-	314
1006-4	5	1220-344-4657	9	1410-	314
1015-0	6	1220-676-2182	9	1410	259
1015-3	6	1220-856-9453	9	141	264
1015-3	6	1220-856-9454	9	14 J1	264
1025-32	5	1220-870-0274	9	1924	253
1025-322	5	1240-056-4854	9	-6503	261
1025-714-	312	1240-871-2969	9	739-6066	262
1025-714-18	7	1240-875-7933	10	1420-767-4137	253
1025-714-A07	7			1420-768-3696	253
1025-714-A146	7			1420-769-6187	287
1025-714-A147	7			1420-779-2386	251
1025-730-6685	7				
1025-767-0410	7				
1025-930-2590	7				
1025-981-2763	7				

SECTION IV URGENT DEPARTMENT OF THE ARMY MODIFICATION WORK ORDERS

300000 TACTICAL AND SUPPORT VEHICLES

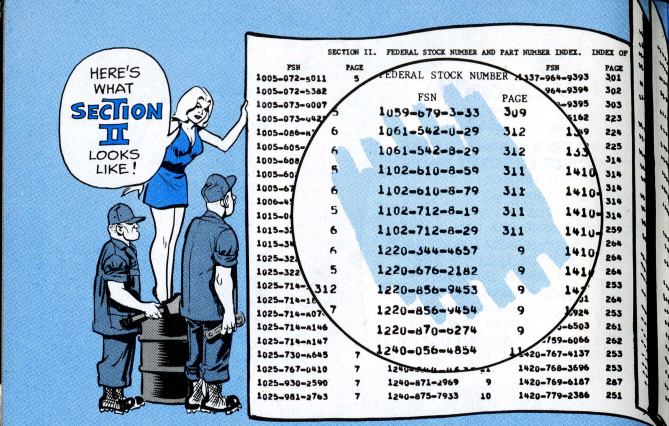
EQUIPMENT TYPE, MODEL, SERIES	FSN	MWO	DATE	PRI	CAT	M/H	AP
* OTHER TACTICAL AND SUPPORT VEHICLES							
KIT-BOOM INSTALLATION	1450-710-1755	9-1450-500-30/8	12 JUL 68	U	B	8.0	ALL

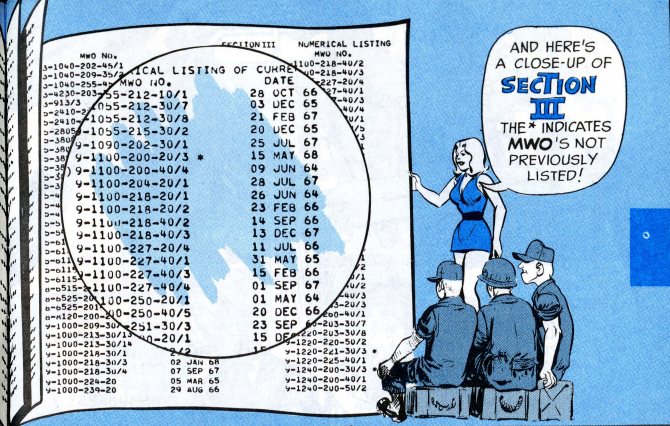


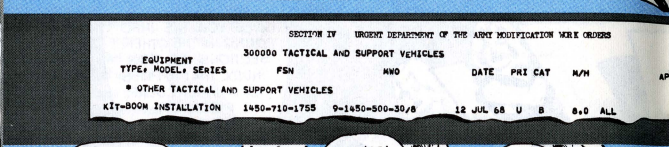
SECTION V ALL DEPARTMENT OF THE ARMY MODIFICATION WORK ORD

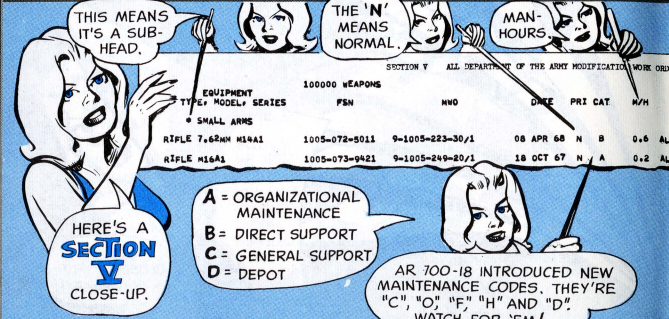
100000 WEAPONS

EQUIPMENT TYPE, MODEL, SERIES	FSN	MWO	DATE	PRI	CAT	M/H	
* SMALL ARMS							
RIFLE 7.62MM M14A1	1005-072-5011	9-1005-223-30/1	08 APR 68	N	B	0.6	AL
RIFLE M16A1	1005-073-9421	9-1005-249-20/1	18 OCT 67	N	A	0.2	AL









You can use your DA 310-7 to enter MWO's required into your log book forms.

If it is a support level MWO, they'll add the MWO title and kit number . . . or give you the kit number for entering it.

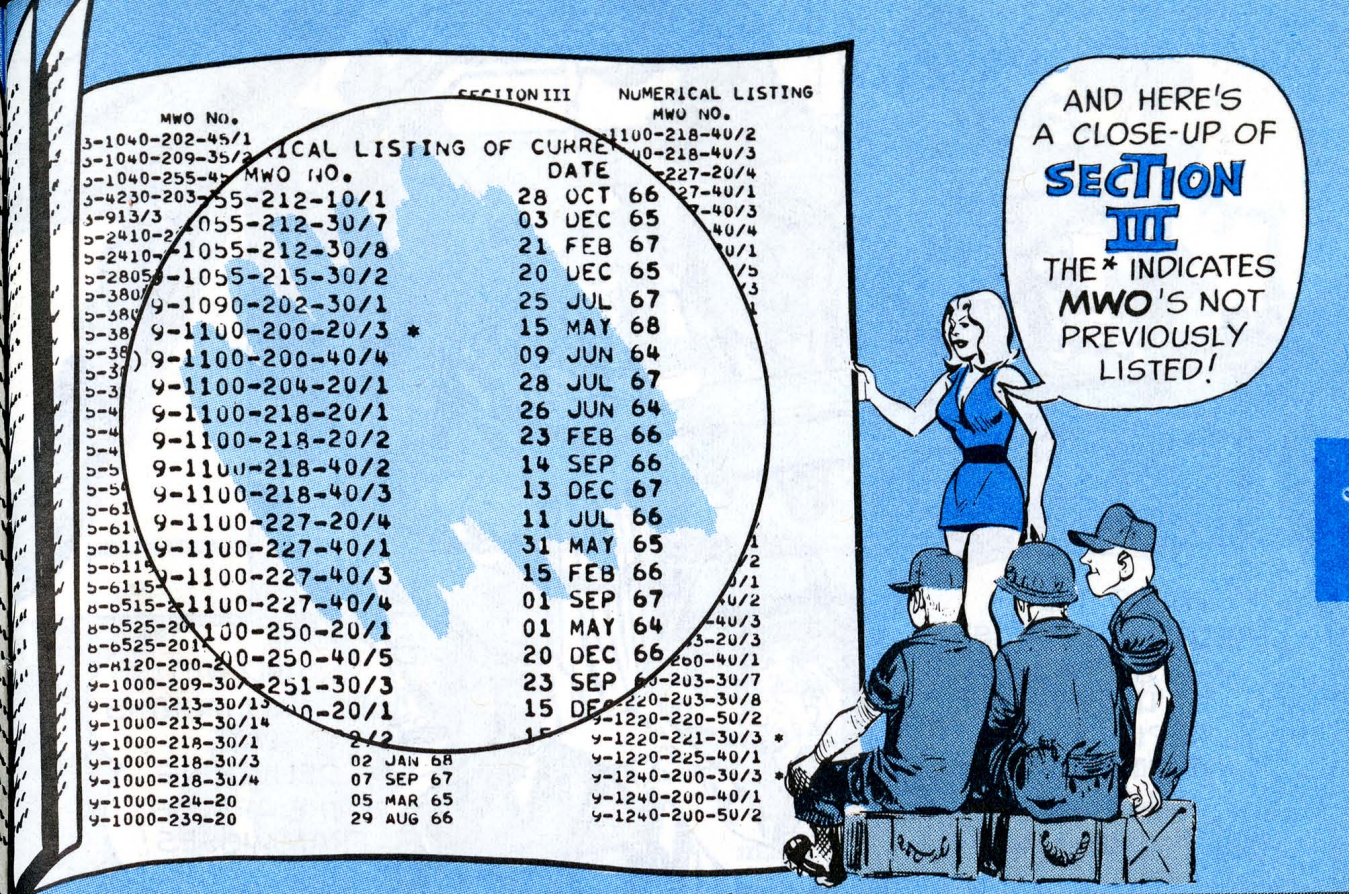
You can use 310-7 for ordering an MWO publication but it's NOT the authority to requisition kits or applying the MWO.

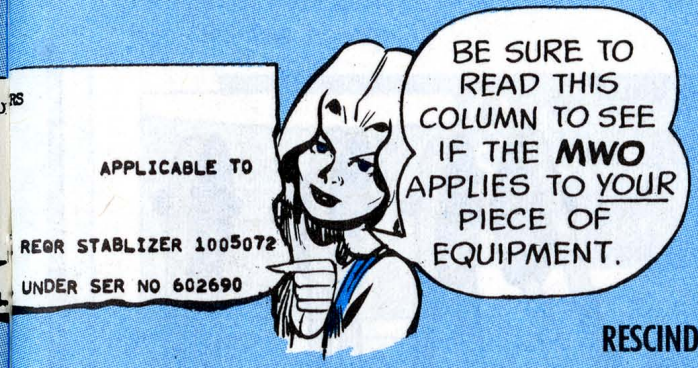
RESCINDED MWO'S

You can keep track of rescinded MWO's by checking your EIR Digests (TB 750-900-series) and your DA 310-series Circulars.

Once an MWO has been rescinded you're not supposed to apply it or remove it from your equipment without going through command channels for approval to Headquarters, Department of the Army, or the U.S. Army Security Agency (whichever one applies).

THE END





You can use your DA 310-7 to enter MWO's required into your log book forms.

If it is a support level MWO, they'll add the MWO title and kit number . . . or give you the kit number for entering it.

You can use 310-7 for ordering an MWO publication but it's NOT the authority to requisition kits or applying the MWO.

RESCINDED MWO'S

You can keep track of rescinded MWO's by checking your EIR Digests (TB 750-900-series) and your DA 310-series Circulars.

Once an MWO has been rescinded you're not supposed to apply it or remove it from your equipment without going through command channels for approval to Headquarters, Department of the Army, or the U.S. Army Security Agency (whichever one applies).

PS END

Read that V in V-belt for Vital.

It tells you the shape of the belt, but the shape the belts are in makes the difference between GO and NO-GO power.

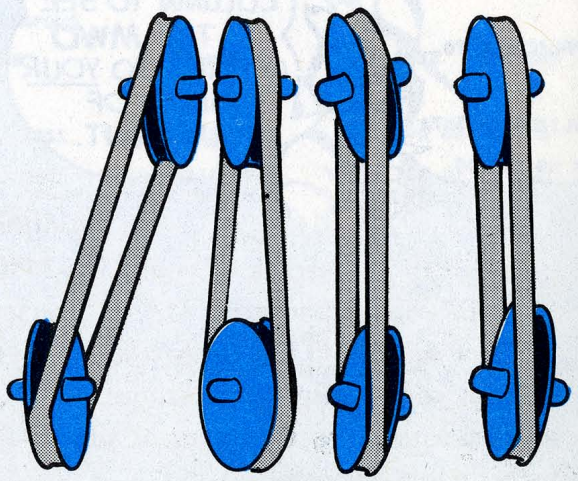
Because they're hard-working and out of sight, they're often ignored while the more glamorous parts of the equipment get all the PM attention. But if they slip or break, the equipment they're serving is—for the time being—just a piece of expensive junk.

POLICE THE LINEUP

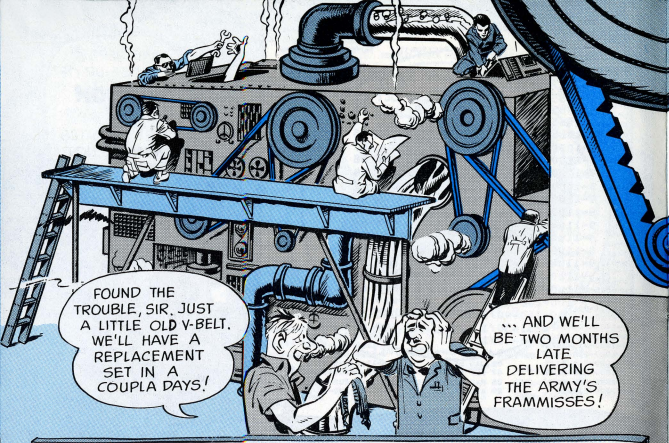
Killer No. 1 is wrong alinement. Canted pulleys can ruin new belts in no time.

The best check-up tool is a straightedge, like a yardstick.

Pulleys too far ahead (or back) or shafts keyed wrong are jobs for your unit wrench wizard—the mechanic. Before you call, also check the throats on both your drive pulley set and driven pulley set for wear in the wrong places.



TYPICAL MISALINEMENT



Read that V in V-belt for Vital.

It tells you the shape of the belt, but the shape the belts are in makes the difference between GO and NO-GO power.

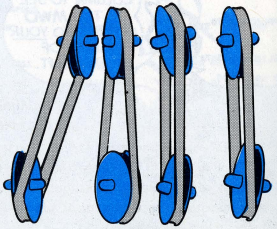
Because they're hard-working and out of sight, they're often ignored while the more glamorous parts of the equipment get all the PM attention. But if they slip or break, the equipment they're serving is—for the time being—just a piece of expensive junk.

POLICE THE LINEUP

Killer No. 1 is wrong alinement. Canted pulleys can ruin new belts in no time.

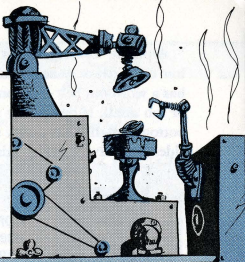
The best check-up tool is a straightedge, like a yardstick.

Pulleys too far ahead (or back) or shafts keyed wrong are jobs for your unit wrench wizard—the mechanic. Before you call, also check the throats on both your drive pulley set and driven pulley set for wear in the wrong places.



TYPICAL MISALINEMENT

-BELT CARE CLINIC



MATCH, NATCH'

MISMATING CAN LEAD TO DISASTER!

Matched set belts have identical Part Numbers and Mold Numbers on each belt.

The cure is easy:

D128	49
D128	49
D128	49
D128	49
D128	49
D128	49

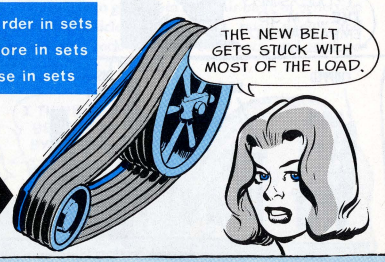
Order in sets
Store in sets
Use in sets

Mismating ruins belts fast, and it's as easy to see as a pair of pants with one leg longer'n the other.

An old belt may have as much as an inch stretch for every foot length. With matched sets you get 1/20th inch difference or less.

But team an old belt and a new one, and the new belt gets the whole load . . . which tears up the new belt and burns the older one.

You can get the wrong belt from supply . . . belts can get switched in the shop . . . pulleys get switched or misplaced . . . so doublecheck pulleys and belts.



NEVER—BUT NOT EVER—MATE A NEW BELT WITH OLD ONES

PS MORE

-BELT CARE CLINIC

MATCH, NATCH'

MISMATING CAN LEAD TO DISASTER!

Matched set belts have identical Part Numbers and Mold Numbers on each belt.

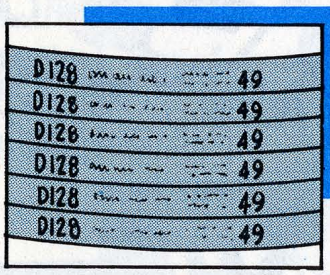
The cure is easy:

Mismating ruins belts fast, and it's as easy to see as a pair of pants with one leg longer'n the other.

An old belt may have as much as an inch stretch for every foot length. With matched sets you get 1/20th inch difference or less.

But team an old belt and a new one, and the new belt gets the whole load . . . which tears up the new belt and burns the older one.

You can get the wrong belt from supply . . . belts can get switched in the shop . . . pulleys get switched or misplaced . . . so doublecheck pulleys and belts.

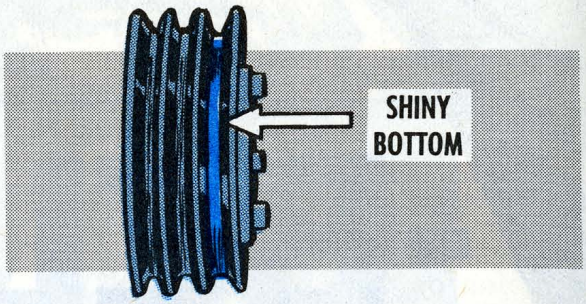


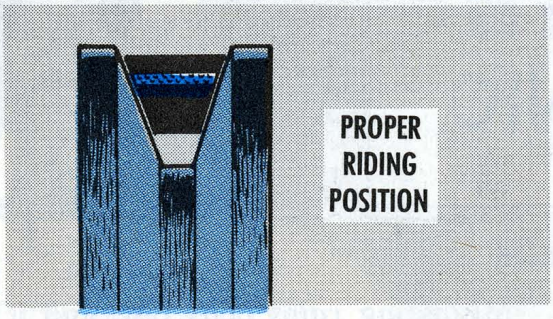
Order in sets
Store in sets
Use in sets

NEVER — BUT NOT EVER — MATE A NEW BELT WITH OLD ONES

PS MORE

A pulley wearing bright on the bottom and little or none on the sides either has a worn-out belt—or one misplaced or too small. If one pulley gets a shiny bottom and the next pulley shows shiny sides, you have a pulley mismatch.



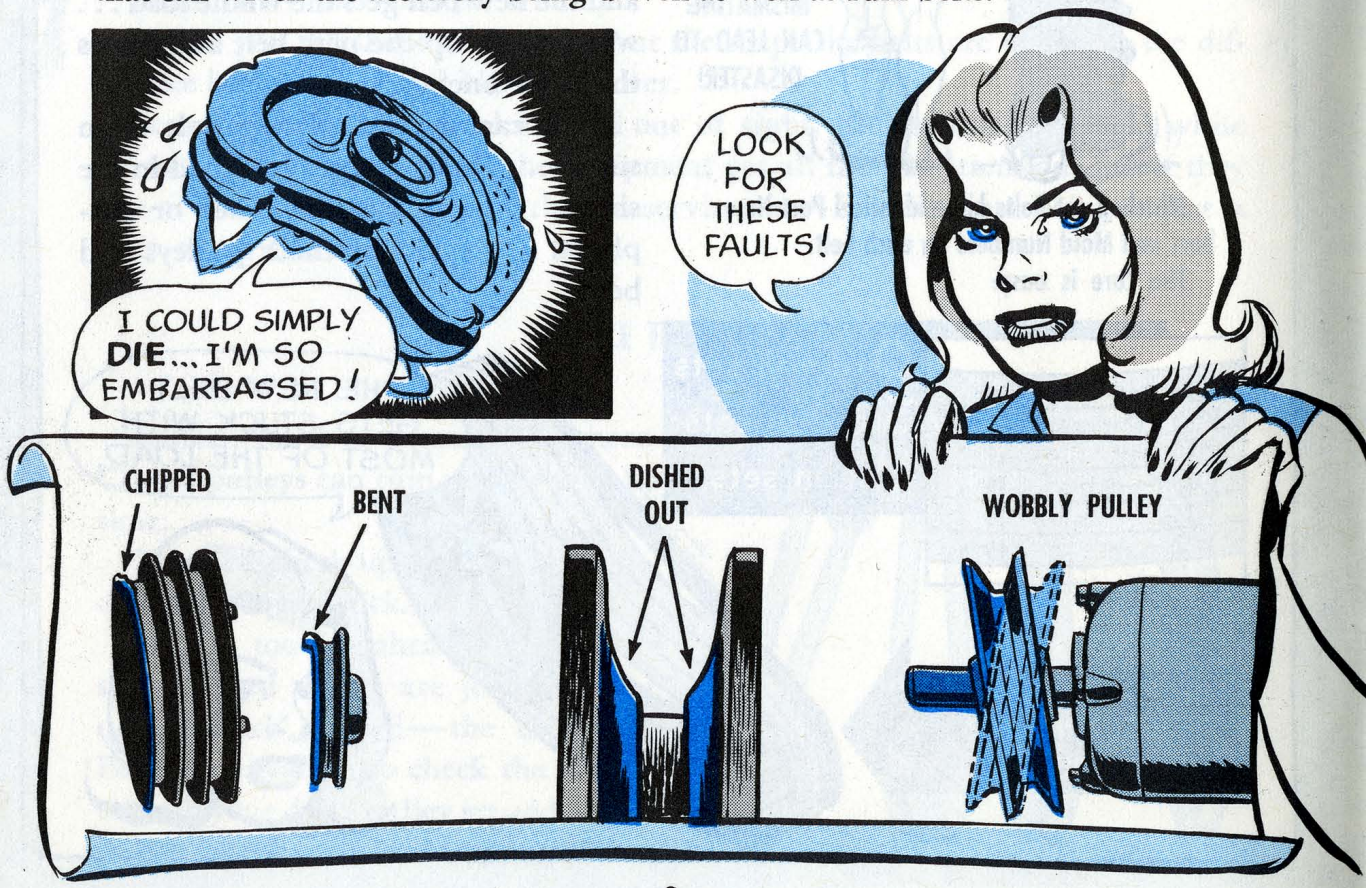


Undersized belts can overspeed the items they drive by as much as 100 per cent. Just remember: the slanted part, the sides, do the work on a V-belt. If it rubs the bottom or crowds the sheave top, something's wrong! (Sheave is that groove built into your pulley.)

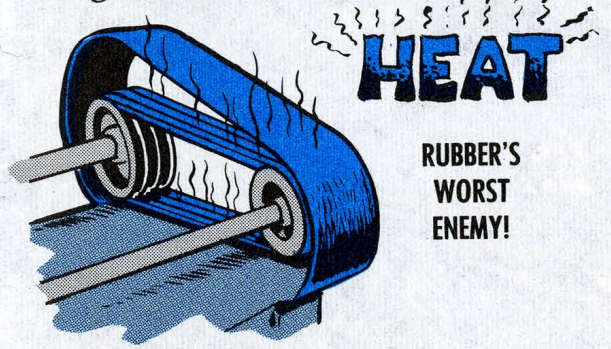
DON'T LOSE FACE

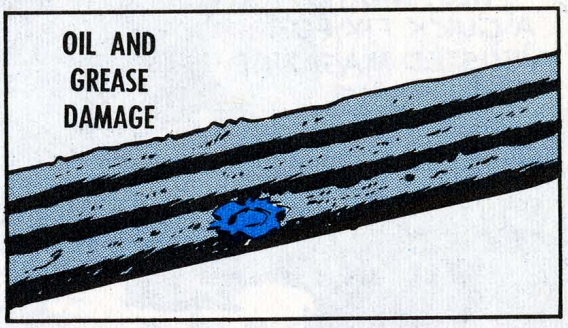
Face does matter on pulleys . . . cracks, dents, and chips there make sheaves worse than worthless. Grit or oil and sand spilling over sheave faces dish them out so badly no belt made will fit right.

Look for cracked bushings or bent shafts. They make sheaves wobble and that can wreck the accessory being driven as well as ruin belts.



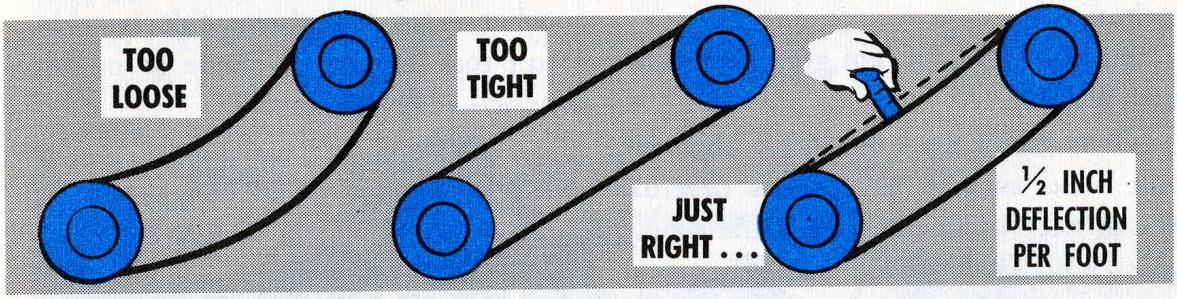
Check every few days to see if your belt is living in a good neighborhood. Oil dripping on faces, overheating, bent guards, or fan blades beating your belts bring on stretch, cuts, and uneven wear.



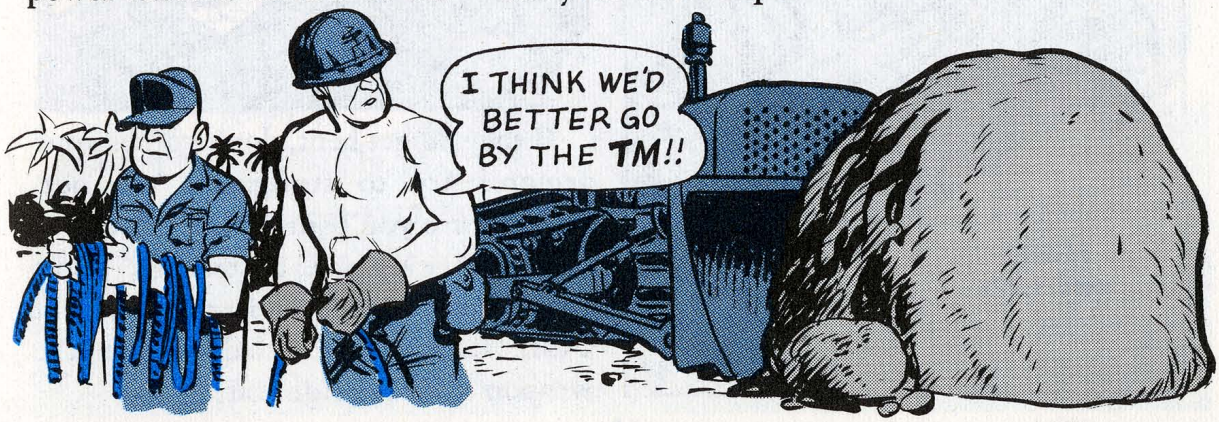


New belts need special care—you can't just install 'em and forget 'em. They have to get seated and adjusted.

Make sure you adjust at the end of the first hour's run. The next checkup is made 8 running hours later. Then you check and adjust again every 200 hours—or as much oftener, in rough service, as your SOP calls for.



Mostly you have to watch tension. Take a good hard push with your thumb halfway between the pulleys. You ought to get 1/2-in or a hair more of deflection for each foot of span. This works on vehicle accessory belts, small pumps, and such, but for heavier engineer drives—rock crushers, conveyors, and stuff on power takeoffs more'n 40 HP—use your TM recipe.



END

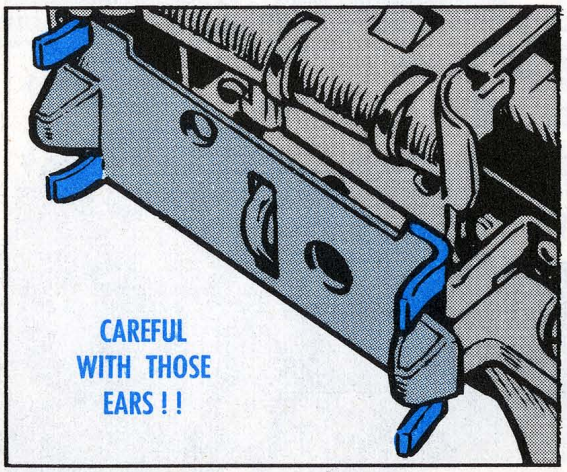
M60 MACHINE GUN

GENTLE ON YOUR MIND

What's the best cure for busted magazine bracket guides on your M60 chatterbox?

Simple. Don't let 'em get bent in the first place.

These guides stick out like rabbit ears and bend easy if you're not careful. When they bend, the magazine won't seat right. Bad. Worse yet, when you try to straighten 'em out, they're likely to bust off . . . and there goes the ball game.



So take it real gently when handling your M60. Don't pile one on top of another — lay 'em down side by side. Don't toss 'em in a vehicle or on the ground — lay 'em gently.

If they do get bent, don't you or your armorer try to straighten 'em out. Chances are you'll just bust 'em off.

If they ever get busted off, don't either you or your armorer fuss with it a-tall. Bent — or busted — turn the weapon in to DS right off.

M60 DOUBLE-TAKE

Your M60 machine gun is a double-barreled shotgun — which is a fact that could save your hide.

You're issued 2 barrels for each M60 — one on the gun, one spare.

You put on the spare barrel when the other overheats — which it'll do fast — every time you fire cyclic, or get off 200 rounds a minute for 10 minutes —

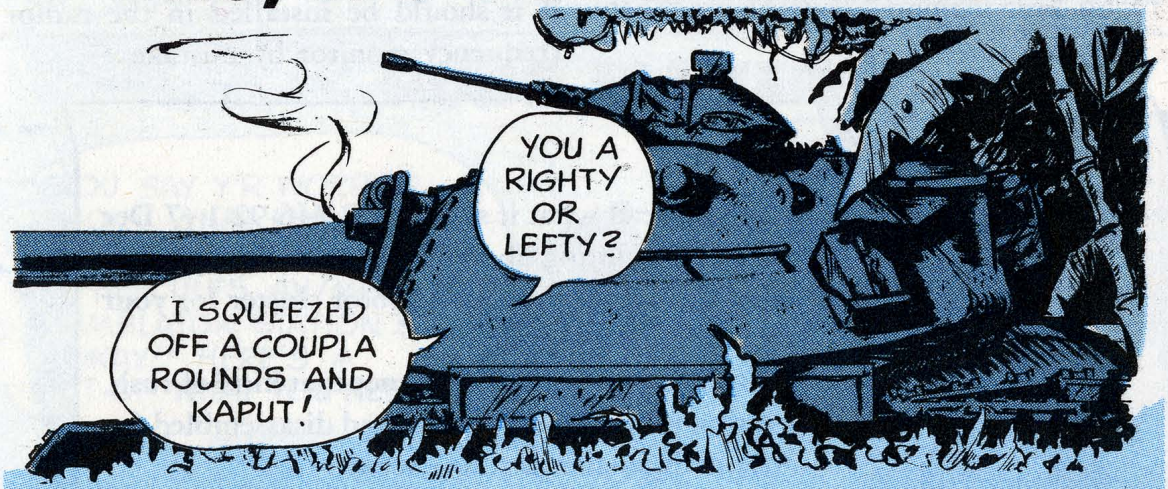
Or even when you burn 100 rounds a minute for 10 minutes.

So never, leave that case and barrel at base, or anyplace but right in your pack —

You need a cool barrel the worst way when you do need one.

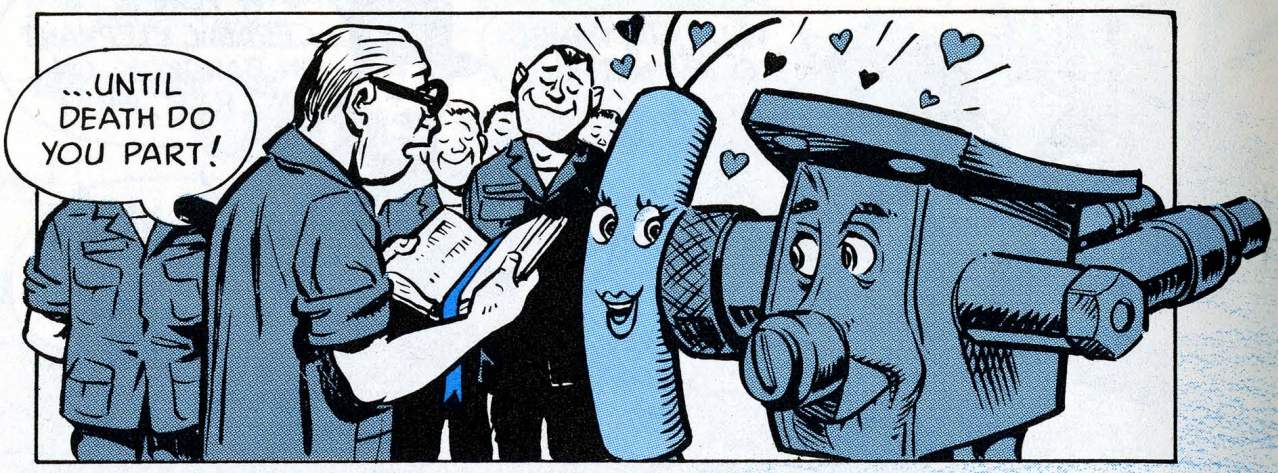
So keep it handy, along with the mitten you'll need to change a hot barrel.

NO, IT'S NOT 2-HANDED



Y'say your .30-cal M37 MG stopped firing after only 3 rounds? Quick, lift the cover and see if maybe you've got the ejector and extractor positioned wrong for the way your weapon's feeding. For right-hand feeding, the ejector's gotta be to the left of the extractor. For left-hand feed, the ejector must be to the right of the extractor. Para 20 of FM 23-55 (Jul 65) has all the scoop.

RESISTOR SAVERS...WATCH IT!



When the support types pull a duplexer from your Nike-Herc MTR/TTR antenna, be sure they also pull the R16 resistor in the radio-frequency monitor chassis.

An R16 is matched (to 1/100 of an ohm) with the thermister mount used on the basic MTR/TTR duplexer, and with the probe used on the improved TTR duplexer. It'll work only with its matched component in any duplexer.

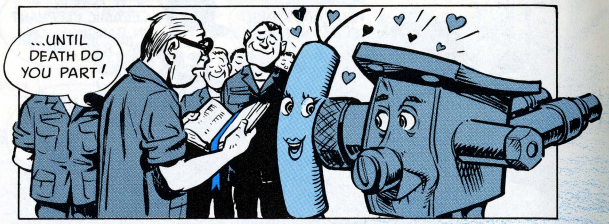
So, keep in mind—an R16 is actually a part of the thermister or the probe, it's not a separate item, it doesn't have an FSN . . . and, it must remain with its matched component for life . . . and, that includes going to salvage together.

Leaving an R16 behind cheats the rebuild shop because the unserviceable components can't be repaired without a matched resistor . . . and, a replacement runs something like 198-bucks. An odd R16 can also cause you grief, if it should be installed in the radio-frequency monitor by mistake.

So you read what it says in TB 746-92-1 (7 Dec 68) about painting and you figure you'd better do something about the rocket motor cluster for your Nike-Hercules missile.

Good thinking, but there's not that kind of rush. Waiting until you have the round disassembled for other maintenance is time enough.

RESISTOR SAVERS . . . WATCH IT!



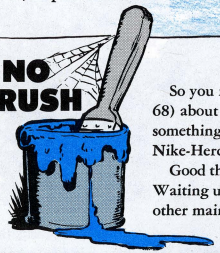
When the support types pull a duplexer from your Nike-Herc MTR/TTR antenna, be sure they also pull the R16 resistor in the radio-frequency monitor chassis.

An R16 is matched (to 1/100 of an ohm) with the thermister mount used on the basic MTR/TTR duplexer, and with the probe used on the improved TTR duplexer. It'll work only with its matched component in any duplexer.

So, keep in mind — an R16 is actually a part of the thermister or the probe, it's not a separate item, it doesn't have an FSN . . . and, it must remain with its matched component for life . . . and, that includes going to salvage together.

Leaving an R16 behind cheats the rebuild shop because the unserviceable components can't be repaired without a matched resistor . . . and, a replacement runs something like 198-bucks. An odd R16 can also cause you grief, if it should be installed in the radio-frequency monitor by mistake.

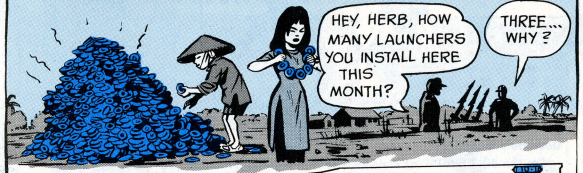
NO RUSH



So you read what it says in TB 746-92-1 (7 Dec 68) about painting and you figure you'd better do something about the rocket motor cluster for your Nike-Hercules missile.

Good thinking, but there's not that kind of rush. Waiting until you have the round disassembled for other maintenance is time enough.

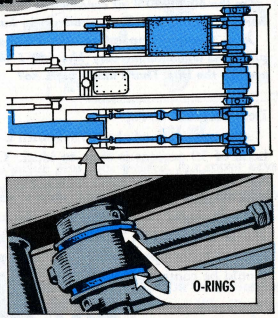
DISCARD THE FELT O-RINGS



Dear Half-Mast

I say the felt O-rings on the rear of the M36A1 Nike-Herc launcher are for shipping purposes only. Some units here keep the O-rings in place and even have them replaced, as needed. What's the word — keep 'em or discard 'em?

Mr. C. J. H.

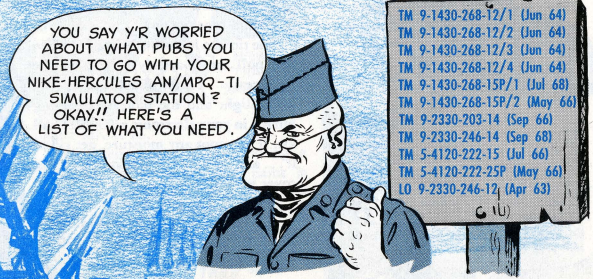


Dear Mr. C. J. H.,

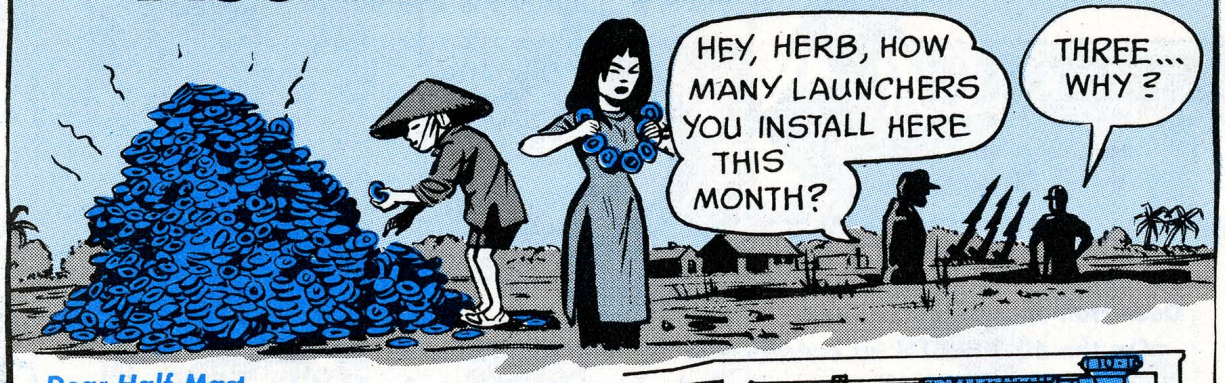
You're right. The 8 3/16" x 5" O-rings, at the base of the erecting cylinders are for shipping purposes only and should be discarded when the launcher is installed.

Half-Mast

PUBS ELEVEN



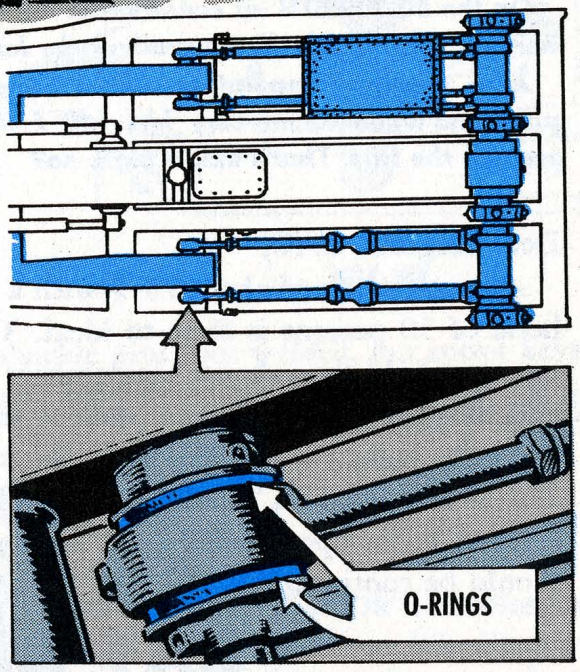
DISCARD THE FELT O-RINGS



Dear Half-Mast

I say the felt O-rings on the rear of the M36A1 Nike-Herc launcher are for shipping purposes only. Some units here keep the O-rings in place and even have them replaced, as needed. What's the word—keep 'em or discard 'em?

Mr. C. J. H.

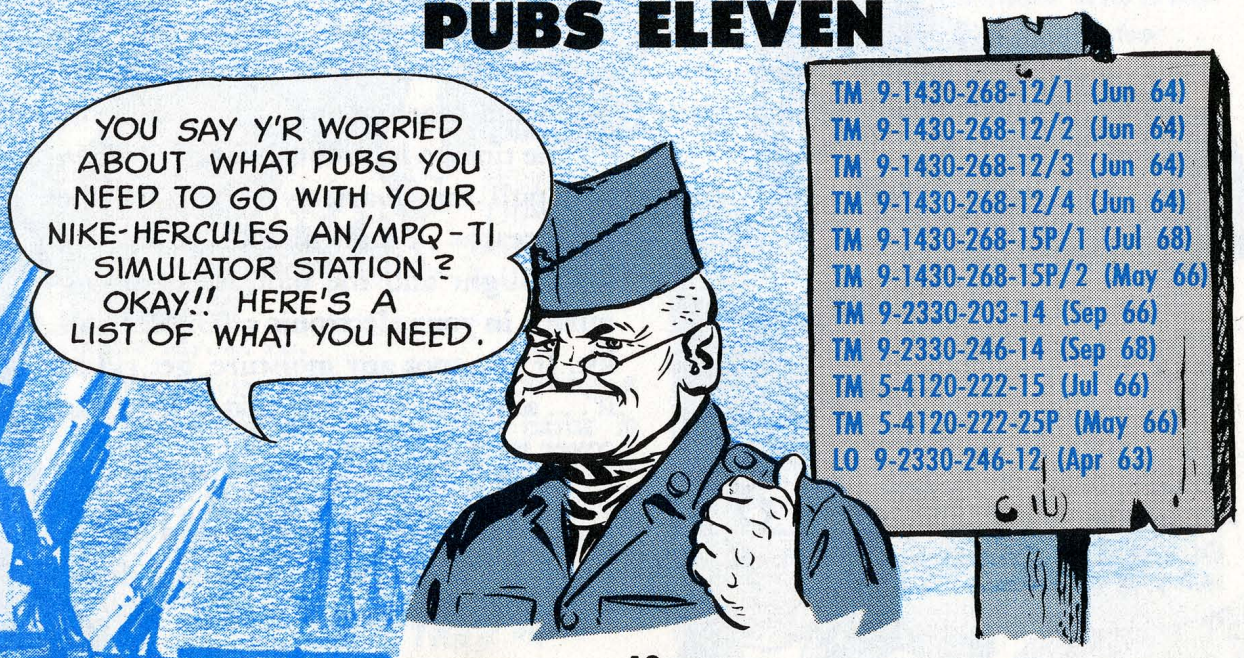


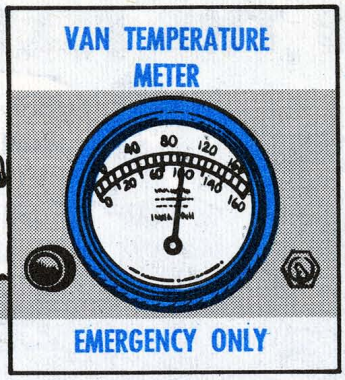
Dear Mr. C. J. H.,

You're right. The 8 3/16" x 5" O-rings, at the base of the erecting cylinders are for shipping purposes only and should be discarded when the launcher is installed.

Half-Mast

PUBS ELEVEN





Dear Half-Mast,

On the 60,000 BTU air conditioners for our Nike-Hercules BC and RC vans there's a humidistat for controlling the humidity. What should it be set at?

Also, the van temperature meters are supposed to be set so that the buzzer will sound when the mercury hits 140°F inside—like when the air conditioner goes on the fritz. That's kinda high, no?

SFC C. A.

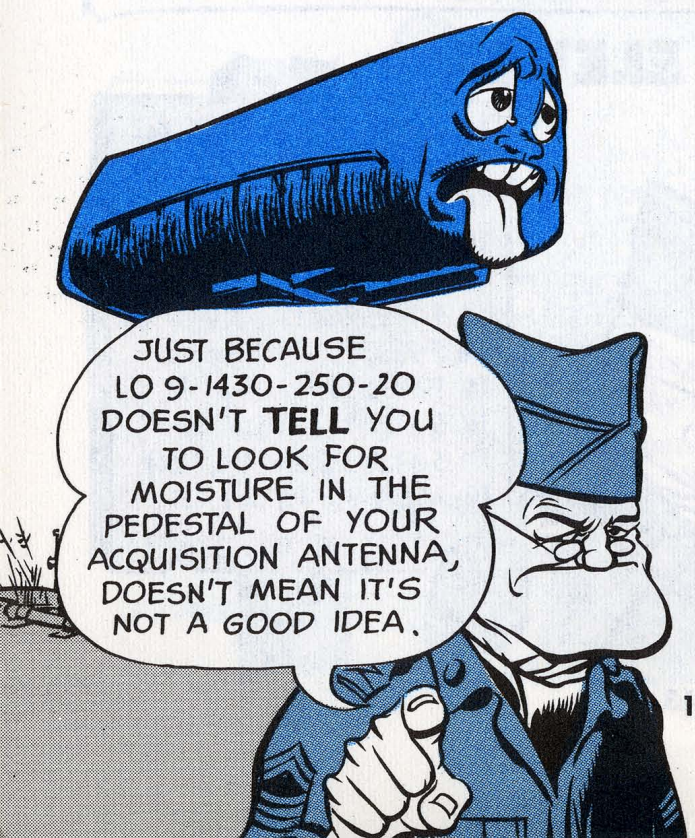
Dear Sergeant C. A.,

A temperature of about 75°F with a humidity reading in the neighborhood of 50 percent is close to ideal. 'Course . . . you also want to make sure you hold the exhaust temperature in the equipment ventilating cabinet the way the instruction plate in the cabinet tells you.

You're right . . . 140°F is high. But as it says in para 96c of TM 9-1430-250-10 (15 Dec 58), "Under these conditions with the damper and shutter level set to the open position only emergency operation of the equipment should be continued."

Half-Mast

SAY AH-H-H-H

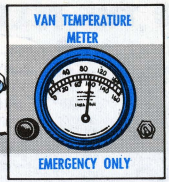


Moisture and just plain water can cause corrosion that'll ruin things like gears and bearings.

The time to look for the stuff is when you pull the quarterly service on the spur gears . . . and the tools to use are a flashlight and the mouth-examining mirror in your electronic assembler tool kit. If you spot any moisture, get rid of it . . . and then take bets that at least one cover gasket is shot.

While you're at it, look to see if any grease has been slopped around by the gears . . . or maybe is caked and dirty. If so, it's cleaning time.

SETTING PRETTY



Dear Half-Mast,

On the 60,000 BTU air conditioners for our Nike-Hercules BC and RC vans there's a humidistat for controlling the humidity. What should it be set at?

Also, the van temperature meters are supposed to be set so that the buzzer will sound when the mercury hits 140°F inside—like when the air conditioner goes on the fritz. That's kinda high, no?

SFC C. A.

Dear Sergeant C. A.,

A temperature of about 75°F with a humidity reading in the neighborhood of 50 percent is close to ideal. 'Course . . . you also want to make sure you hold the exhaust temperature in the equipment ventilating cabinet the way the instruction plate in the cabinet tells you.

You're right . . . 140°F is high. But as it says in para 96c of TM 9-1430-250-10 (15 Dec 58), "Under these conditions with the damper and shutter level set to the open position only emergency operation of the equipment should be continued."

Half-Mast

SAY AH-H-H-H

Moisture and just plain water can cause corrosion that'll ruin things like gears and bearings.

The time to look for the stuff is when you pull the quarterly service on the spur gears . . . and the tools to use are a flashlight and the mouth-examining mirror in your electronic assembler tool kit. If you spot any moisture, get rid of it . . . and then take bets that at least one cover gasket is shot.

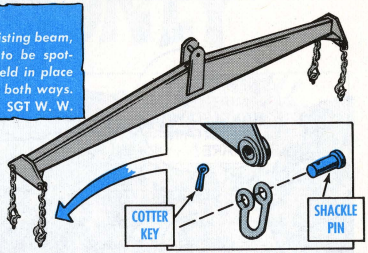
While you're at it, look to see if any grease has been slopped around by the gears . . . or maybe is caked and dirty. If so, it's cleaning time.

EITHER WAY OK

Dear Half-Mast,

On the Nike-Hercules M8 hoisting beam, is the shackle pin supposed to be spot-welded to the 4 shackles or held in place with a cotter key? I've seen it both ways.

SGT W. W.

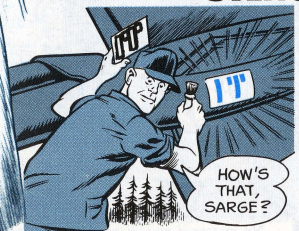


Dear Sergeant W. W.,

The older hoisting beams had their shackle pins spot welded, but cotter keys are used on the later beams. Either way of holding the pin is OK.

Half-Mast

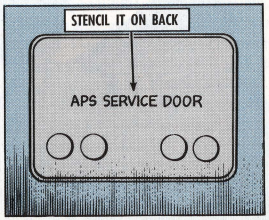
STENCIL IT



Dear Half-Mast,

The "APS SERVICE DOOR" identification has worn off some of our Nike-Hercules missiles, a deal that got us some shortcomings during a recent CMMI. Who is supposed to put the marking on the door . . . and what is used—a stencil or rubber stamp?

CW3 L. A.



Dear Mr. L. A.,

The Organization does it, using a 1/4-inch stencil. The right paint is black lusterless enamel. A 1-gal can is listed under FSN 8010-297-2122 on page 42 of TM 9-1410-250-15P/1/1 (Jun 68).

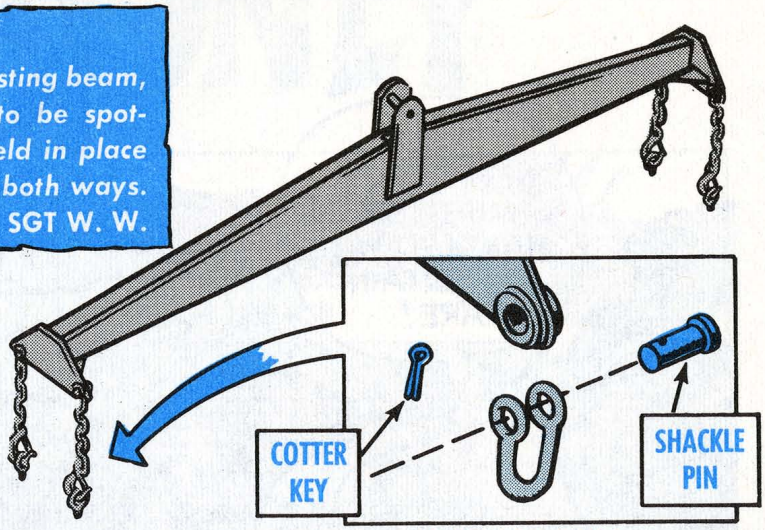
Half-Mast

EITHER WAY OK

Dear Half-Mast,

On the Nike-Hercules M8 hoisting beam, is the shackle pin supposed to be spot-welded to the 4 shackles or held in place with a cotter key? I've seen it both ways.

SGT W. W.



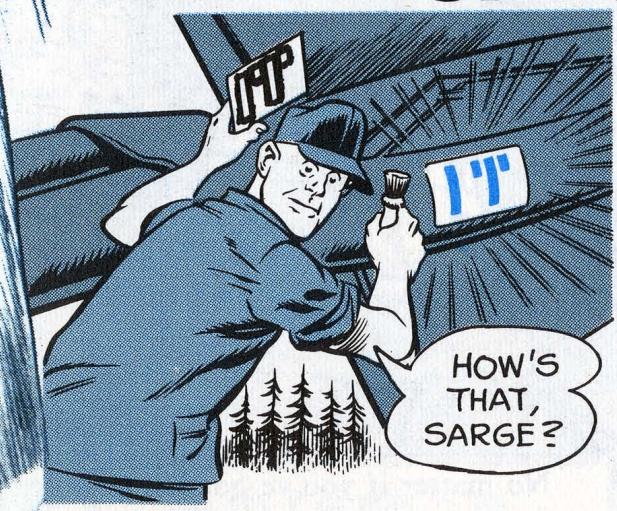
WELDED OR KEYED — MOX NIX

Dear Sergeant W. W.,

The older hoisting beams had their shackle pins spot welded, but cotter keys are used on the later beams. Either way of holding the pin is OK.

Half-Mast

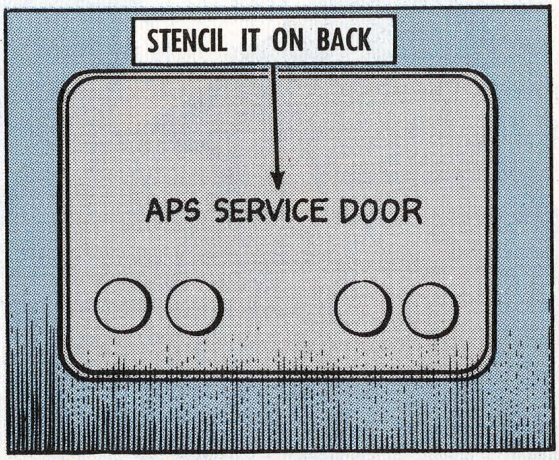
STENCIL IT



Dear Half-Mast,

The "APS SERVICE DOOR" identification has worn off some of our Nike-Hercules missiles, a deal that got us some shortcomings during a recent CMMI. Who is supposed to put the marking on the door . . . and what is used—a stencil or rubber stamp?

CW3 L. A.



Dear Mr. L. A.,

The Organization does it, using a 1/4-inch stencil. The right paint is black lusterless enamel. A 1-gal can is listed under FSN 8010-297-2122 on page 42 of TM 9-1410-250-15P/1/1 (Jun 68).

Half-Mast

NEW AND OLD M134
BARREL CLAMP BOLTS . . .

RIGHT-

No matter if you've got the new or the old type barrel-clamp-retaining bolt on your M134 High Rate Gun, make sure you tighten it exactly right or friend pilot or gunner's going to miss what he's aiming at and just might shoot himself down.

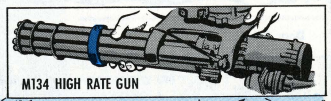
Exactly right — not too loose and not too tight.

NEW AND OLD M134
BARREL CLAMP BOLTS...

RIGHT-TIGHT ONLY

No matter if you've got the new or the old type barrel-clamp-retaining bolt on your M134 High Rate Gun, make sure you tighten it exactly right or friend pilot or gunner's going to miss what he's aiming at and just might shoot himself down.

Exactly right — not too loose and not too tight.



Here's why: If you tighten the bolt too much it'll heat up and expand and bust off when the barrel cluster revs up. Then the barrels will wobble around and could fire into the chopper. Yeow!

If you tighten the new bolt too much, it will also bust. It'll just take more torque and a little more time — but it could still bust!

If you get either the old or the new bolt too loose, it'll pop out and the same wobbly-de-gook foul-up will happen.

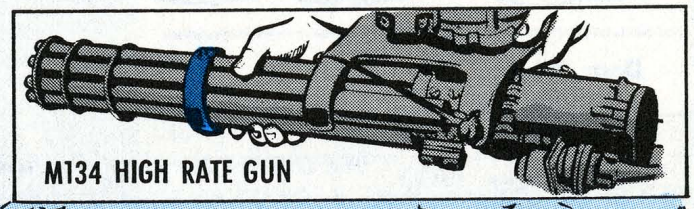
So-o-o-o, on your toes, you 45J's.

About these bolts. The one appearing on newly-issued weapons goes by FSN 5305-143-2901 — P/N 11691076. It's much stronger and wears a "V" on its head. You can order it out of your subsystem's parts pub when the old one gives out.

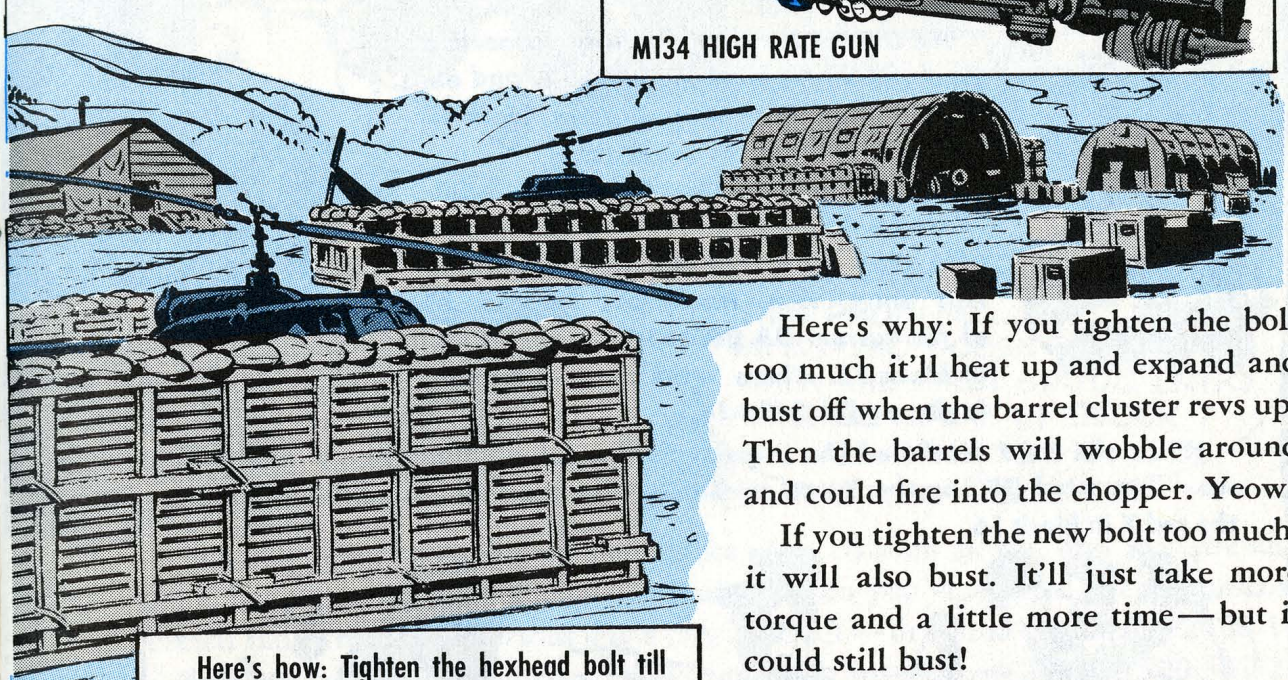
The old-type bolt (FSN 5306-921-5165) is easy to spot by the screwdriver slot in its head.

Don't use any bolt that doesn't have one of these FSN's. They're not strong enough to take the beating.

TIGHT ONLY



M134 HIGH RATE GUN



Here's why: If you tighten the bolt too much it'll heat up and expand and bust off when the barrel cluster revs up. Then the barrels will wobble around and could fire into the chopper. Yeow!

If you tighten the new bolt too much, it will also bust. It'll just take more torque and a little more time—but it could still bust!

If you get either the old or the new bolt too loose, it'll pop out and the same wobbly-de-gook foul-up will happen.

So-o-o-o, on your toes, you 45J's.

About these bolts. The one appearing on newly-issued weapons goes by FSN 5305-143-2901—P/N 11691076. It's much stronger and wears a "V" on its head. You can order it out of your subsystem's parts pub when the old one gives out.

The old-type bolt (FSN 5306-921-5165) is easy to spot by the screwdriver slot in its head.

Don't use any bolt that doesn't have one of these FSN's. They're not strong enough to take the beating.

BOX

Dear Windy,

What's the score on DA 2408-13 block 7?

We started an aircraft daily inspection on a fresh copy of DA 2408-13, and entered "Daily Inspection Due" in block 17 with a red dash in block 16.

Then on the previous day's DA 2408-13 we found an entry that said the engine idle stop solenoid had been removed. This entry was transcribed to block 17 of the current DA 2408-13 with a red X in block 16. There were no uncorrected faults on DA 2408-14.

While the crew continued the inspection, the solenoid previously removed was "Inspected OK" by the TI and reinstalled. The mechanic put his initial over the red X in block 16.

Later—when the inspection was completed—the crew chief put his initial over the red dash (for the inspection) in block 16.

That left no uncorrected faults on the aircraft—either on DA 2408-13 or DA 2408-14. The way we see it, no faults now "exist" as spelled out in para 4-13c (2)(j)1 of TM 38-750. So our crew chief put his last-name initial in box 1 of block 7 on the DA 2408-13.

Our maintenance officer says this is wrong. If it's not right, why not? Where did we go wrong?

SP5 A. M. R.

BOX SCORE ON BLOCK 7

Dear Windy,

What's the score on DA 2408-13 block 7?

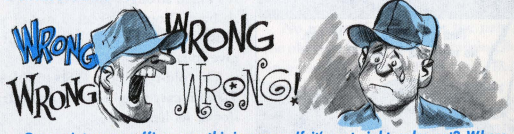
We started an aircraft daily inspection on a fresh copy of DA 2408-13, and entered "Daily Inspection Due" in block 17 with a red dash in block 16.

Then on the previous day's DA 2408-13 we found an entry that said the engine idle stop solenoid had been removed. This entry was transcribed to block 17 of the current DA 2408-13 with a red X in block 16. There were no uncorrected faults on DA 2408-14.

While the crew continued the inspection, the solenoid previously removed was "Inspected OK" by the TI and reinstalled. The mechanic put his initial over the red X in block 16.

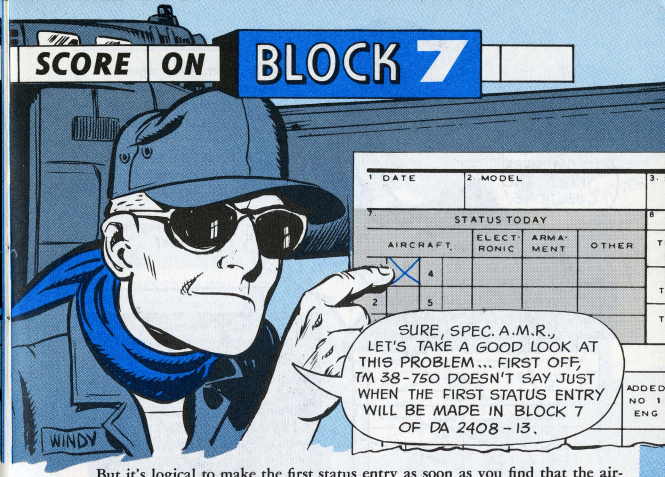
Later—when the inspection was completed—the crew chief put his initial over the red dash (for the inspection) in block 16.

That left no uncorrected faults on the aircraft—either on DA 2408-13 or DA 2408-14. The way we see it, no faults now "exist" as spelled out in para 4-13c (2)(j)1 of TM 38-750. So our crew chief put his last-name initial in box 1 of block 7 on the DA 2408-13.



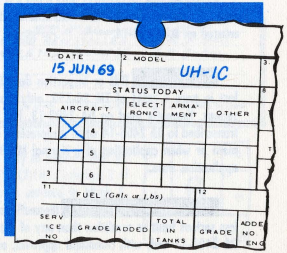
Our maintenance officer says this is wrong. If it's not right, why not? Where did we go wrong?

SP5 A. M. R.



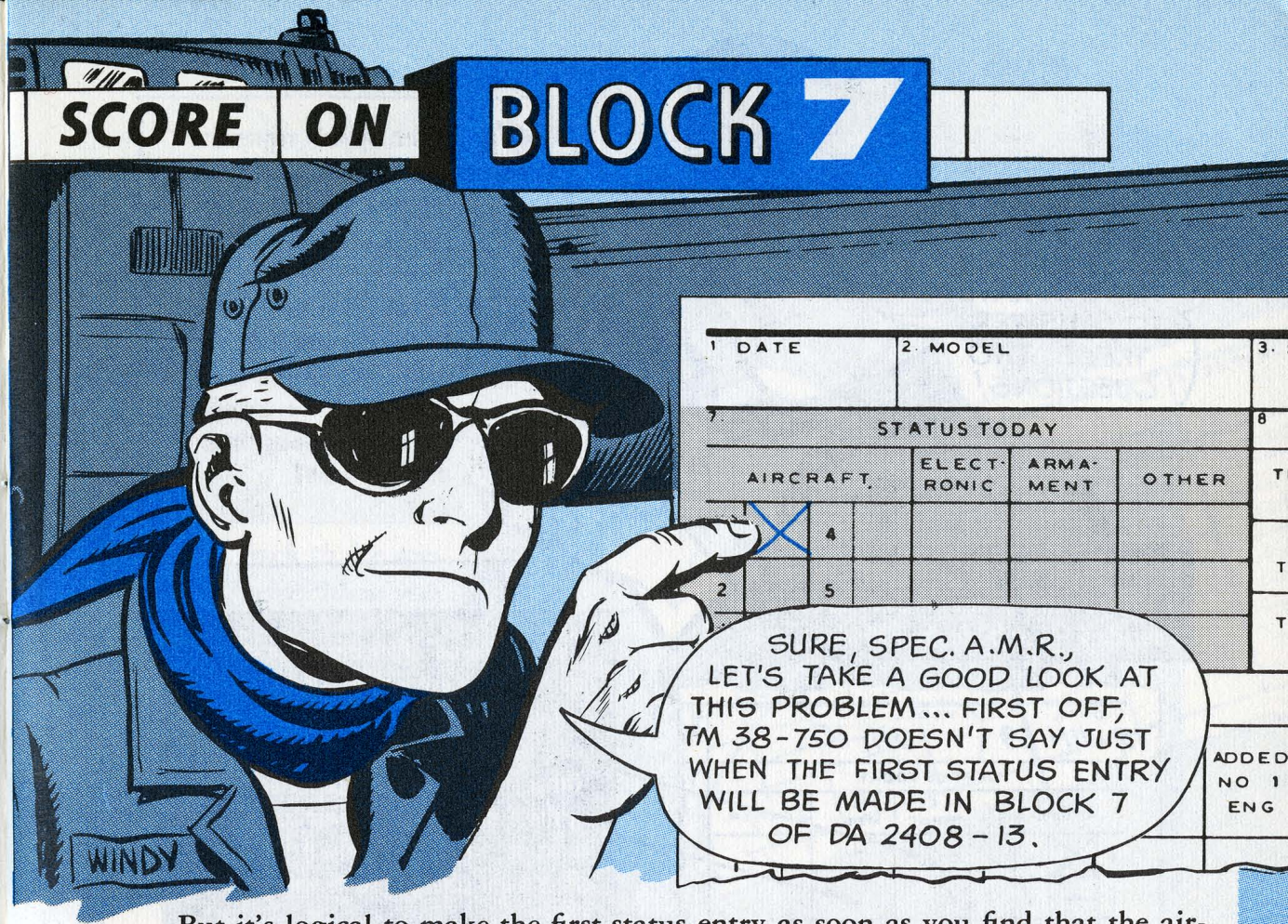
But it's logical to make the first status entry as soon as you find that the aircraft has an uncorrected fault—or faults. When you've carried over an uncorrected fault from the previous day's DA 2408-13—or found one on DA 2408-14—this entry during the first step of your daily inspection (TB 55-1500-301-25 and sequence item 1.1 of the -20 PMD) starts the aircraft day as far as status is concerned. So the first symbol in box 1 of block 7 should be the one for the most serious uncorrected aircraft fault carried over from the previous day or the symbol for the inspection due—if that's more serious than any carried-over fault.

If the status of the aircraft changes as a result of (1) fault corrections during the inspection or (2) discovery of an additional fault or faults during the inspection then the new status symbol should go in box 2 of block 7 at the same time the status symbol in block 16 is changed as spelled out in para 4-13c(2)(t)3 of TM 38-750.



And, during the day's operations, a new symbol would be entered any time another fault **which changes aircraft status** is found.

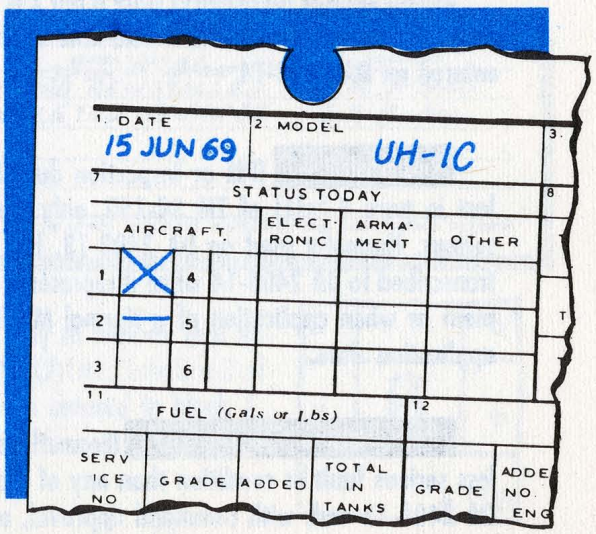
PS MORE



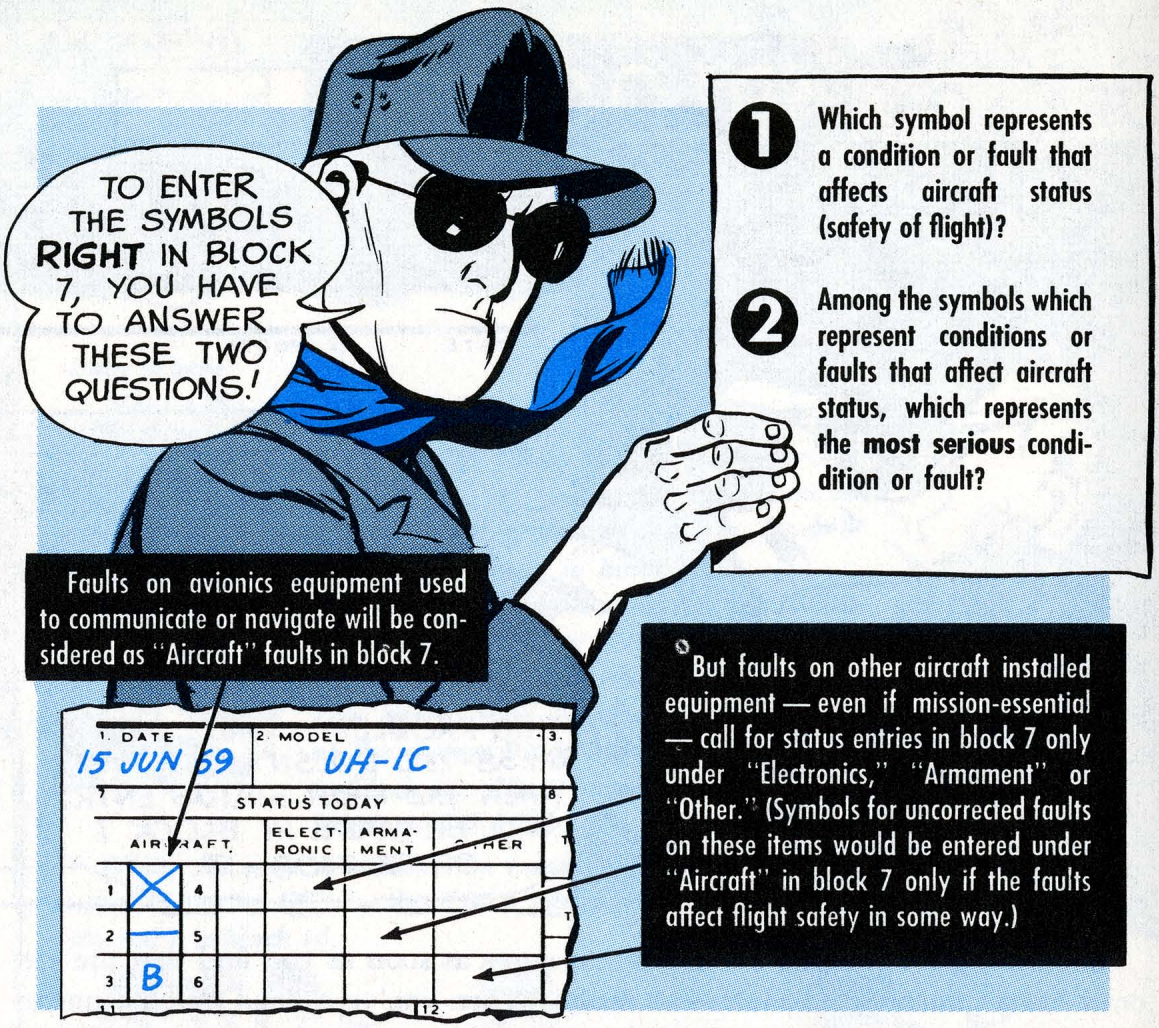
But it's logical to make the first status entry as soon as you find that the aircraft has an uncorrected fault—or faults. When you've carried over an uncorrected fault from the previous day's DA 2408-13—or found one on DA 2408-14—this entry during the first step of your daily inspection (TB 55-1500-301-25 and sequence item 1.1 of the -20 PMD) starts the aircraft day as far as status is concerned. So the first symbol in box 1 of block 7 should be the one for the most serious uncorrected aircraft fault carried over from the previous day or the symbol for the inspection due—if that's more serious than any carried-over fault.

If the status of the aircraft changes as a result of (1) fault corrections during the inspection or (2) discovery of an additional fault or faults during the inspection then the new status symbol should go in box 2 of block 7 at the same time the status symbol in block 16 is changed as spelled out in para 4-13c(2)(t)3 of TM 38-750.

And, during the day's operations, a new symbol would be entered any time another fault **which changes aircraft status** is found.



PS MORE



1 Which symbol represents a condition or fault that affects aircraft status (safety of flight)?

2 Among the symbols which represent conditions or faults that affect aircraft status, which represents the **most serious** condition or fault?

Faults on avionics equipment used to communicate or navigate will be considered as "Aircraft" faults in block 7.

But faults on other aircraft installed equipment — even if mission-essential — call for status entries in block 7 only under "Electronics," "Armament" or "Other." (Symbols for uncorrected faults on these items would be entered under "Aircraft" in block 7 only if the faults affect flight safety in some way.)

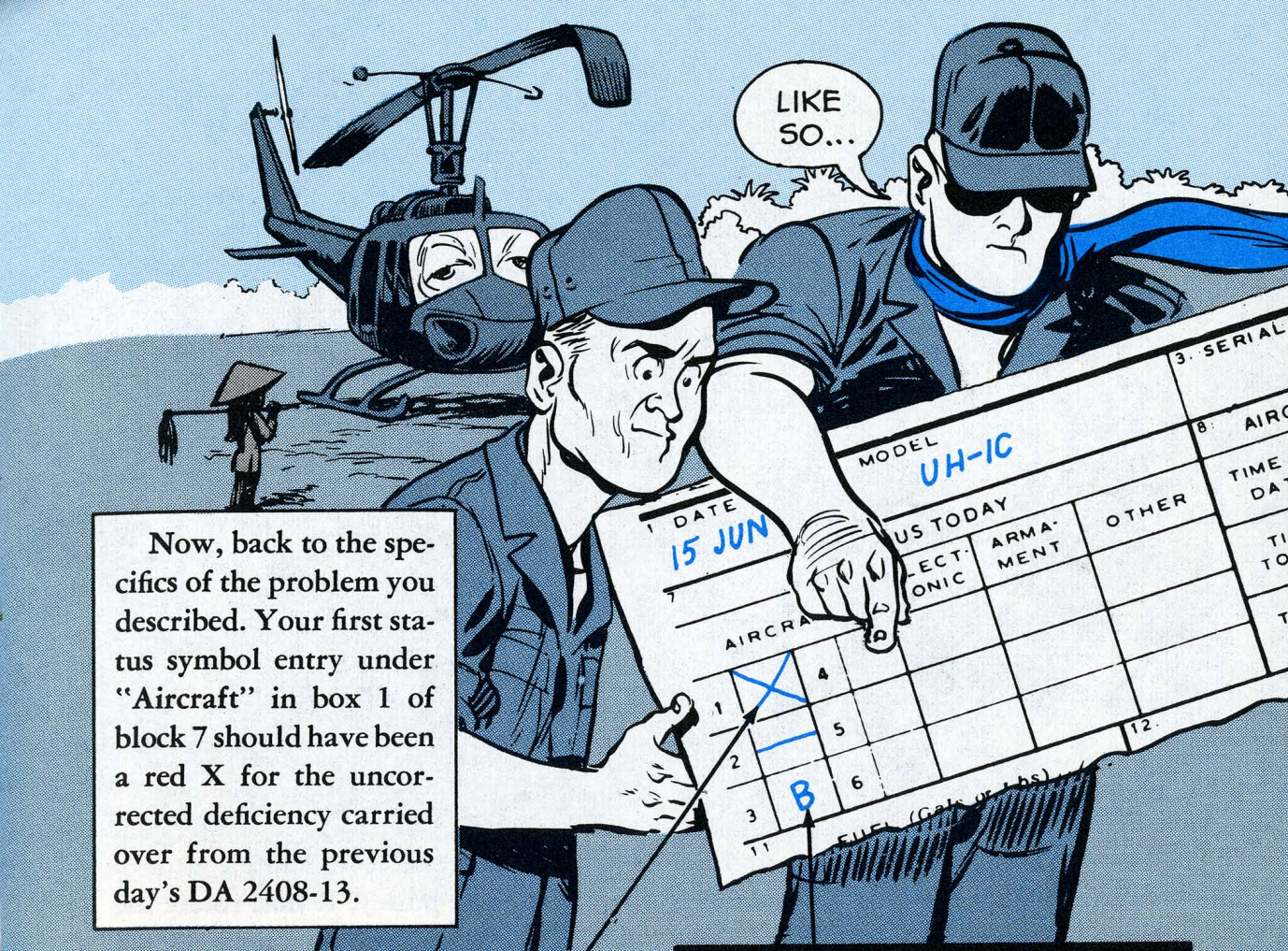
The degree of seriousness of the condition or fault represented by the 4-status symbols is:

Red X (Deficiency) Most serious. Never entered on DA 2408-14.

Circled red X (Deficiency) Only a red X is more serious. This symbol is used only for command-authorized one-time flight or restricted operation. Never entered on DA 2408-14.

Red dash (—) (PM or inspection due) Even though this symbol is listed last in para 4-2c(1) of TM 38-750, only a red X or a circled red X is more serious. Normally used on DA 2408-13, but with command approval may be transcribed to DA 2408-14 when it represents a component overdue for replacement or when application of a Normal MWO is deferred beyond its specified application date.

Red diagonal, or slash (/) (Formerly called a shortcoming) Represents less serious fault or condition than any of the other 3 status symbols. Used on DA 2408-13 and, with command approval, on DA 2408-14.



Now, back to the specifics of the problem you described. Your first status symbol entry under "Aircraft" in box 1 of block 7 should have been a red X for the uncorrected deficiency carried over from the previous day's DA 2408-13.

When this symbol was initialed over in block 16 (after the part was inspected and reinstalled), the next symbol entered in box 2 of block 7 should have been a red dash for the still uncompleted daily inspection.

Once the red dash was initialed over in block 16 upon completion of the inspection, and assuming that no other faults were found, the last-name initial of the crew chief should have been entered **then** in the next open box (under "Aircraft") in block 7.

STATUS	FAULTS AND OR REMARKS	ACTION TAKEN	SIGNATURE
X	(14 JUN 69) ENG IDLE STOP REMOVED	INSPOR & Blair TI SOLENOID REINSTALLED	H. R Ward
B	DAILY INSPECTION DUE G.A. Baker	COMPLETED 15 JUN 69	G.A Baker

DA FORM 2408-13, 1 DEC 66 REPLACES EDITION OF 1 JAN 64, WHICH WILL BE USED (TM 38-750) AIRCRAFT INSPECTION AND MAINTENANCE RECORD

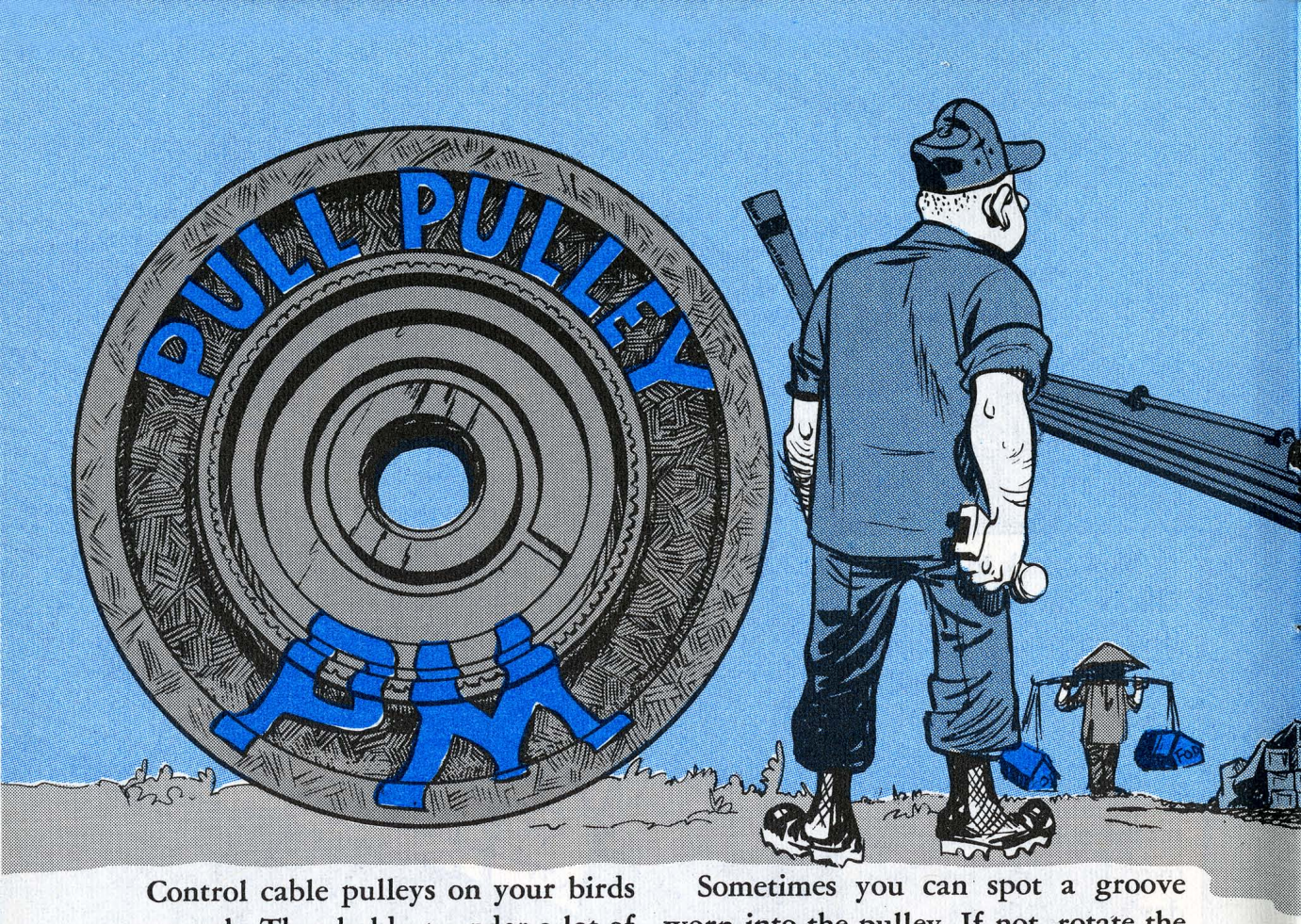
Note that an initial entered alone in block 7 is used only to indicate that no faults exist on the aircraft — as spelled out in para 4-13c(2)(J)1. Subpara 3 of the same paragraph tells you that a status symbol, once entered in block 7, "will not be initialed over, erased, changed, or duplicated even if entered in error."

That's the block 7 box score as it looks from here.

2		5
3	B	6
11		FUE

Windy

PS END

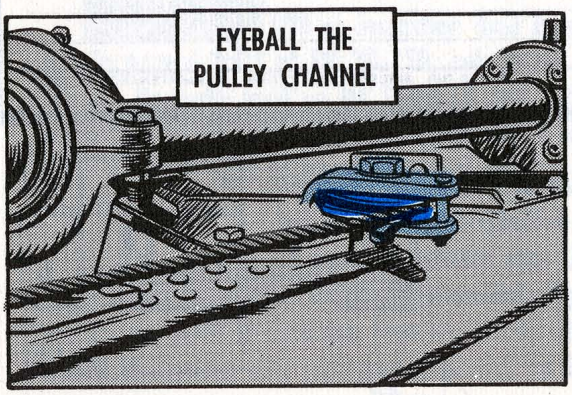


Control cable pulleys on your birds are tough. They hold up under a lot of tension!!

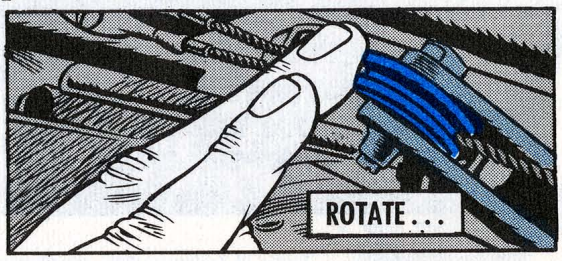
But pulleys wear. Take those smoothies on your Raven (OH-23) for example. Tension on tail rotor control cables will groove the pulleys.

When are grooves bad enough to warrant a pulley change? Come closer, man!

Eyeball the pulley channel. Then make the feel test.



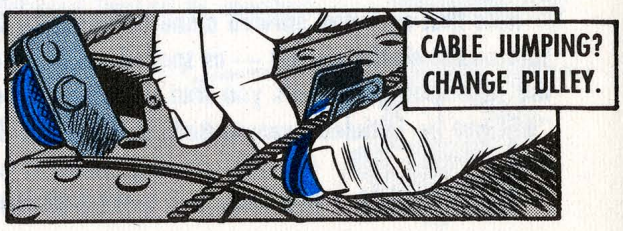
Sometimes you can spot a groove worn into the pulley. If not, rotate the pulley slowly for 360 degrees.

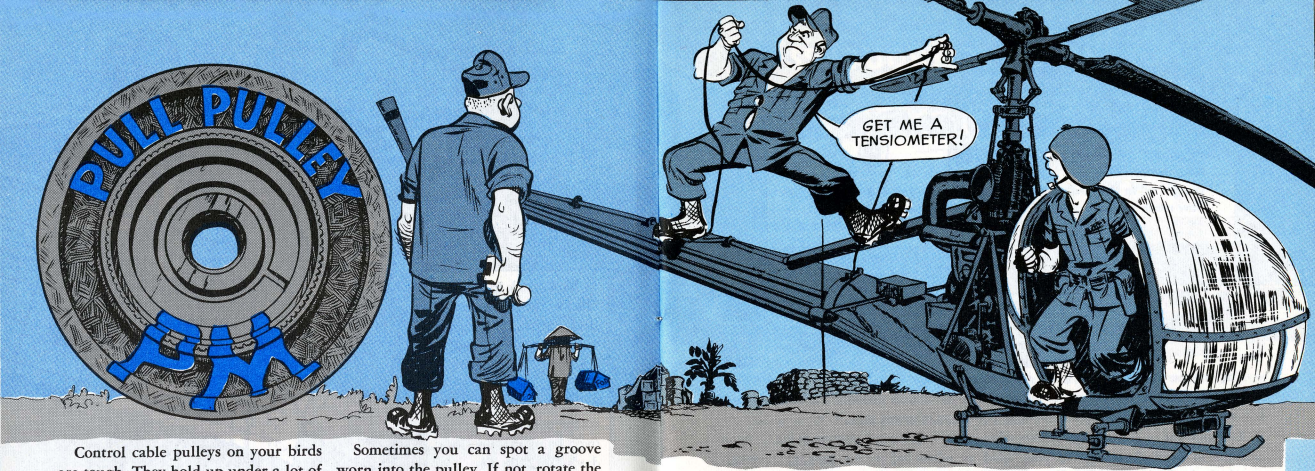


If the cable twists, rotates or jumps up and down like a jumping bean the grooves are too deep and the pulley needs changing.

'Tain't much you can do about a real groovy pulley except change it.

When you find yourself changing



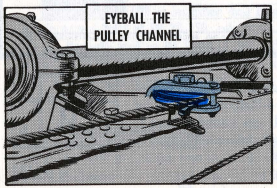


Control cable pulleys on your birds are tough. They hold up under a lot of tension!!

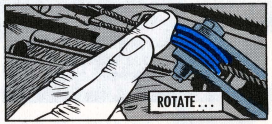
But pulleys wear. Take those smoothies on your Raven (OH-23) for example. Tension on tail rotor control cables will groove the pulleys.

When are grooves bad enough to warrant a pulley change? Come closer, man!

Eyeball the pulley channel. Then make the feel test.



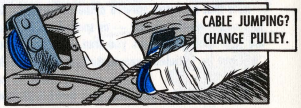
Sometimes you can spot a groove worn into the pulley. If not, rotate the pulley slowly for 360 degrees.



If the cable twists, rotates or jumps up and down like a jumping bean the grooves are too deep and the pulley needs changing.

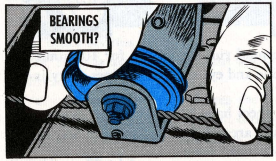
'Tain't much you can do about a real groovy pulley except change it.

When you find yourself changing pulleys often, tho, you can do something about it. Distribute the wear patterns by rotating the pulleys 90-degrees during inspections.

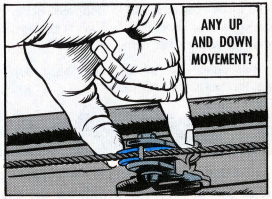


Also, make sure you use a tensiometer after every rigging chore to make sure the cables are not too loose or too tight. Either condition will wear those babies quick-like.

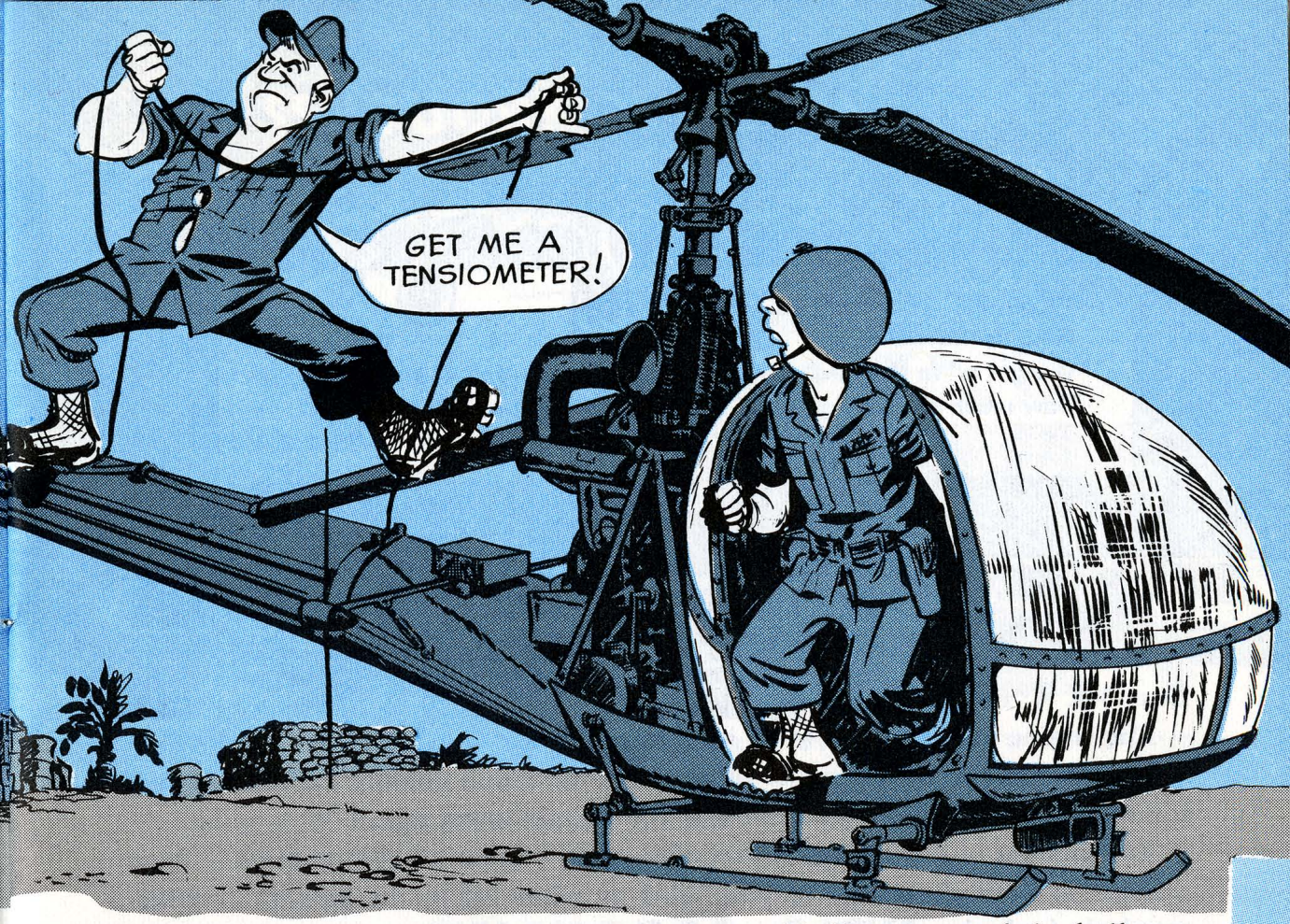
To check the pulley bearing, hold the cable off the pulley and rotate the pulley again. If you feel any bumps, roughness or binding, some of the balls are shot — and so is the bearing.



Let loose of the cable and make with an up-and-down and side-to-side motion to make sure there is no play in the bearing. Any rust or lubricant leakage present also means the bearing gets changed.



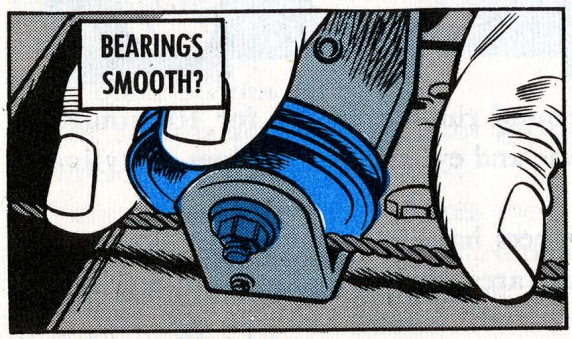
Yessir-e-e-e, those pulleys will stand up to stress. Just give 'em the once-over now and then.



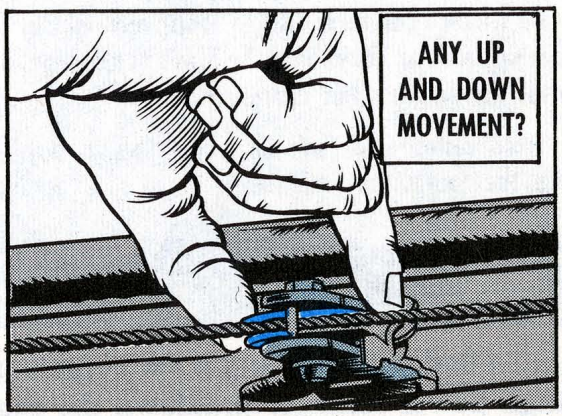
pulleys often, tho, you can do something about it. Distribute the wear patterns by rotating the pulleys 90-degrees during inspections.

Also, make sure you use a tensiometer after every rigging chore to make sure the cables are not too loose or too tight. Either condition will wear those babies quick-like.

To check the pulley bearing, hold the cable off the pulley and rotate the pulley again. If you feel any bumps, roughness or binding, some of the balls are shot—and so is the bearing.



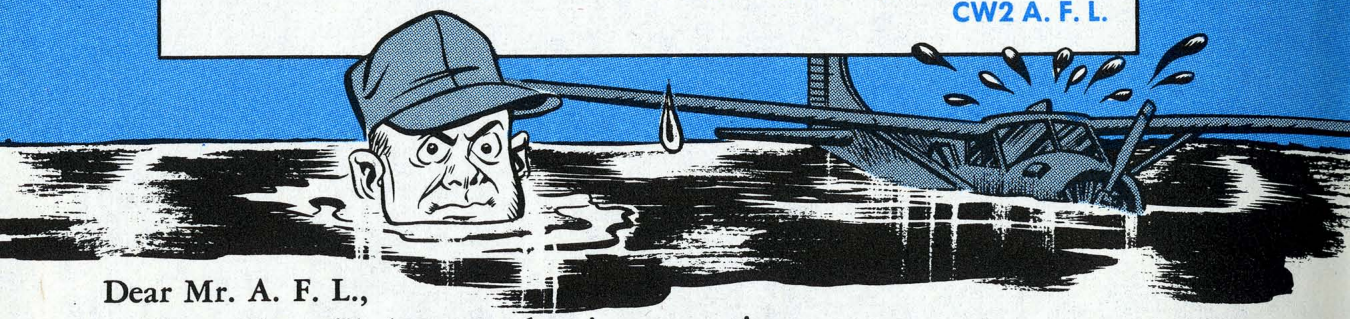
Let loose of the cable and make with an up-and-down and side-to-side motion to make sure there is no play in the bearing. Any rust or lubricant leakage present also means the bearing gets changed.



Yessir-e-e-e, those pulleys will stand up to stress. Just give 'em the once-over now and then.

HOW MUCH IS ENOUGH??

Dear Windy,
Give us the low-down, will ya?
We get oil in the intake pipes of our Otter (U-1A) R1340-61 engine.
How much oil leakage is too much, requiring an engine change?
CW2 A. F. L.



Dear Mr. A. F. L.,

The engine will clue you when it starts acting up.

Some oil in the lower intake pipes and combustion chamber is not unusual for radial engines that have been idle for 3 hours or more.

The amount of oil leakage is excessive when engine oil consumption is high enough to limit the range of your bird or when oil in the induction system regularly fouls the spark plugs.

Oil in the induction system can give you an improper fuel mixture which increases the chances of detonation. You know what detonation can do to an engine —overheat, fatigue . . . the scrap heap!!

Oil leakage can be caused by worn valve guides in which case oil drains into the lower intake pipes when the engine's not operating.

Worn piston rings will also allow oil to flow into the combustion chamber.

But the most common cause of oil leakage into the induction system is due to a shot impeller bearing seal. The three-ring seal can fail because of overheating, oil starvation, overage and sustained high engine speeds.

To find out if the seal is the culprit, ground run the engine for 10 minutes at high power settings. Shutdown the engine and eye the intake pipes on cylinders number 3 and 7 for oil.

The R1340-61 engine overhaul work specs have been revised to closer tolerances and more exacting clearances in the area of the impeller seal. So, leaking impeller seals should give you less trouble in the future.

Windy

YES INDEED

Dear Windy,

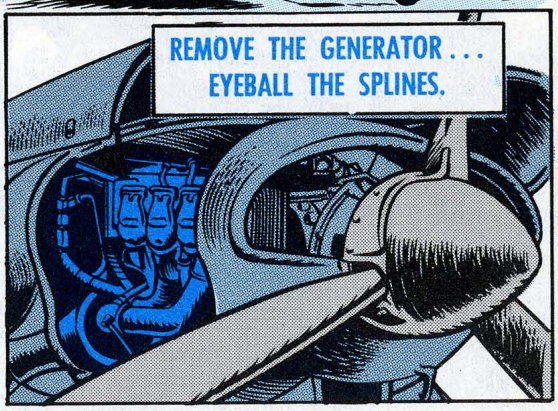
I came across an entry on the DA Form 2408-18 for our Seminole that has me baffled!!

It seems that every third periodic we're supposed to remove the engine generator and eyeball the drive shaft splines for excessive wear which can lead to failure.

TB 750-931-1/1, Ch 1 (21 Nov 66) is referenced on the form. A look at the Seminole PMP checksheets calls for no such check.

Do we pull the generator for inspection?

SP6 E. D. B.



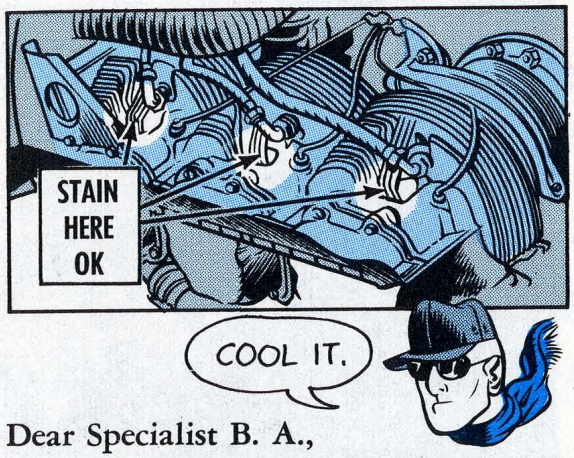
Dear Specialist E. D. B.,

Yessir-e-e, eye the old 100-amp generator, P/N 30059-002, which is listed in the technical bulletin.

The new 200-amp generator, P/N 30E20-11B, also gets the big look.

Windy

CYLINDERS A-OK



Dear Windy,

There's a difference of opinion—and that's putting it mildly—about cylinder seepage on our Bird Dog O-470-11B engine.

We get what appears to be oil stains where the cylinder barrel is shrunk into the cylinder head.

This seepage—does it or doesn't it call for a cylinder change?

SP6 B. A.

Dear Specialist B. A.,

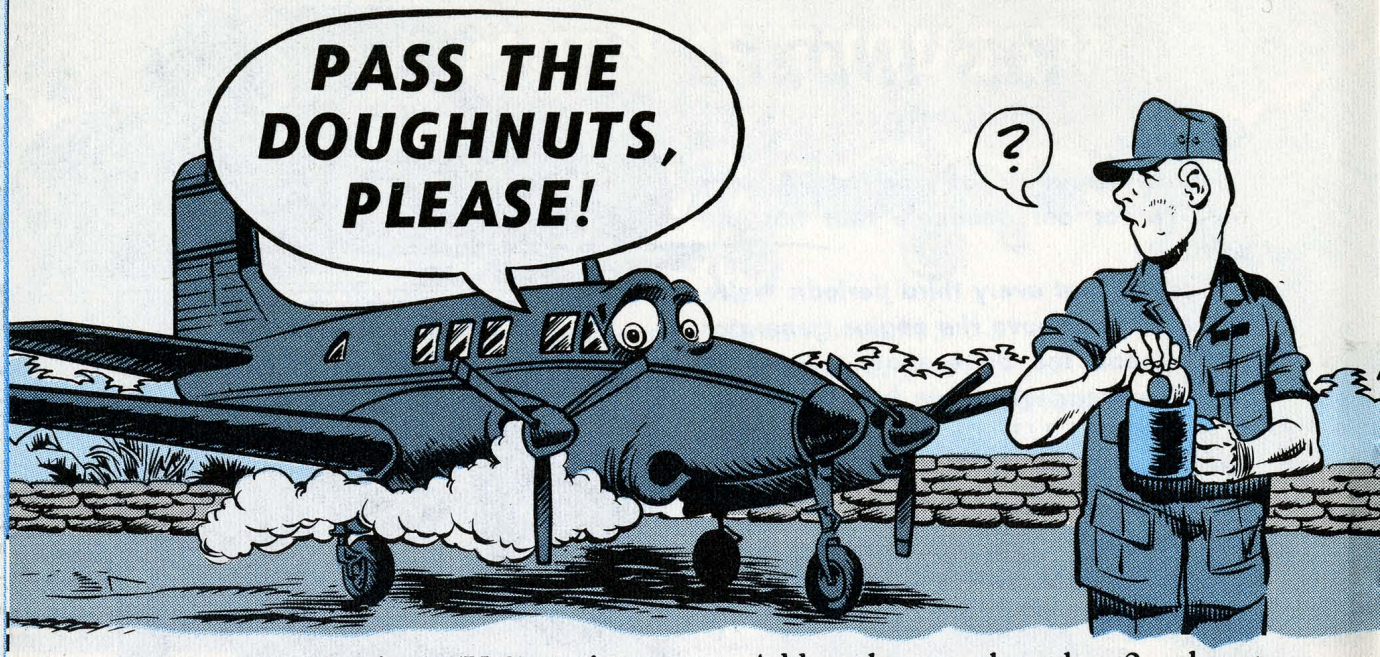
Relax! No cylinder change is needed unless there is a loss of compression or some other serious fault.

The stain is actually lubricant applied at the factory when the cylinder barrel is threaded into the head.

Very slight gas seepage forces the lubricant out. It usually stops when the threads are plugged with carbon during engine operation.

The condition is not hazardous. Engine operation and performance are not affected.

Windy



It's true — Seminole (U-8) engine exhaust stacks are flat so that they mate flush with the cylinders . . . no gaskets needed.

But, don't get steamed-up when a stack mounting flange becomes warped and starts to leak!

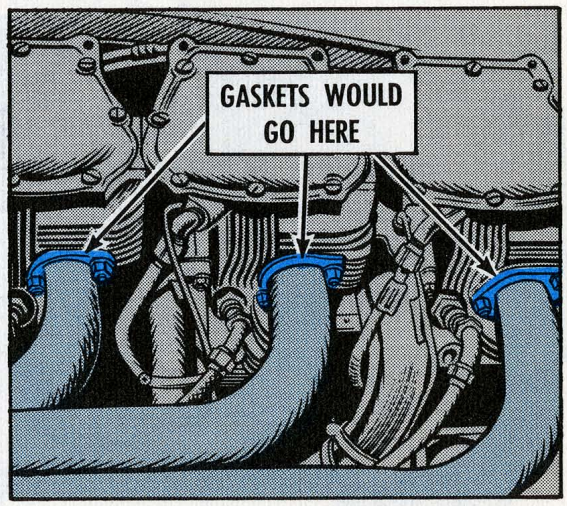
It's doughnuts — er-r-r-r gaskets, to the rescue!

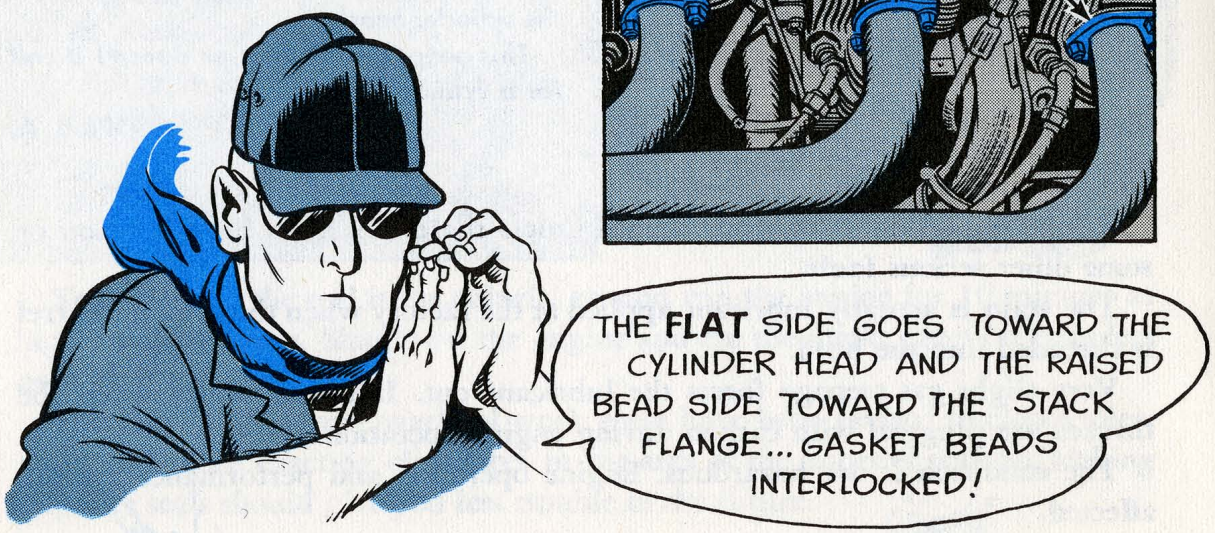
'Course the stack flange must be flat .006-in maximum, for the gaskets to make a complete seal.

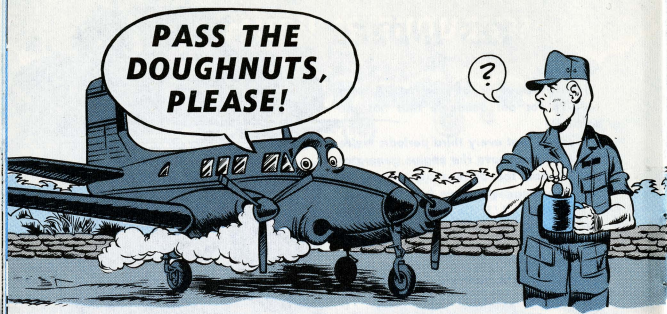
Use 2 gaskets, P/N 73720, FSN 5330-069-9647.

Add gaskets at the other 2 exhaust stacks on the same bank of cylinders. The 6 gaskets will give you the right stack alinement.

No need to use gaskets on the other side of the engine unless there's a leak there also. Then you'll need gaskets on all cylinders.







It's true—Seminole (U-8) engine exhaust stacks are flat so that they mate flush with the cylinders . . . no gaskets needed.

But, don't get steamed-up when a stack mounting flange becomes warped and starts to leak!

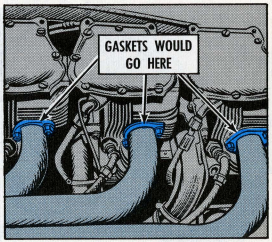
It's doughnuts—er-r-r-r gaskets, to the rescue!

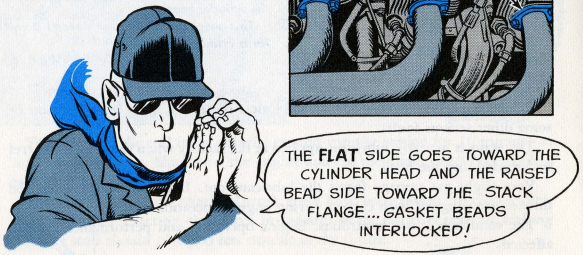
'Course the stack flange must be flat .006-in maximum, for the gaskets to make a complete seal.

Use 2 gaskets, P/N 73720, FSN 5330-069-9647.

Add gaskets at the other 2 exhaust stacks on the same bank of cylinders. The 6 gaskets will give you the right stack alinement.

No need to use gaskets on the other side of the engine unless there's a leak there also. Then you'll need gaskets on all cylinders.





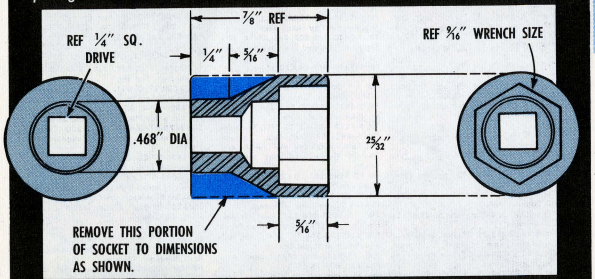
TIME-SAVING TAPERED TOOL

Dear Editor,

Tightening and loosening the nuts holding the AC generators in a CH-47 helicopter can be mighty frustrating, knuckle-knocking and down right time wasting, because of the tight area a mechanic has to operate in.

So-o-o-o, we've come up with a modified snap-on socket wrench.

Take a salvaged 7/8-in long snap-on socket, 1/4-in square drive with a 9/16-in opening, and cut the square drive end to .468-in diameter for about 1/4 inch toward the opening.



Then taper toward the opening for 5/16 inch so as not to cut down on the thickness of the socket wall at the opening end.

This tool tapering will allow for freer movement along the flanged walls of the Chinook generators.

Austin J. Schaefer
New Cumberland Army Depot

(Ed Note—Sounds good . . . and, it'll mean more time for maintenance.)

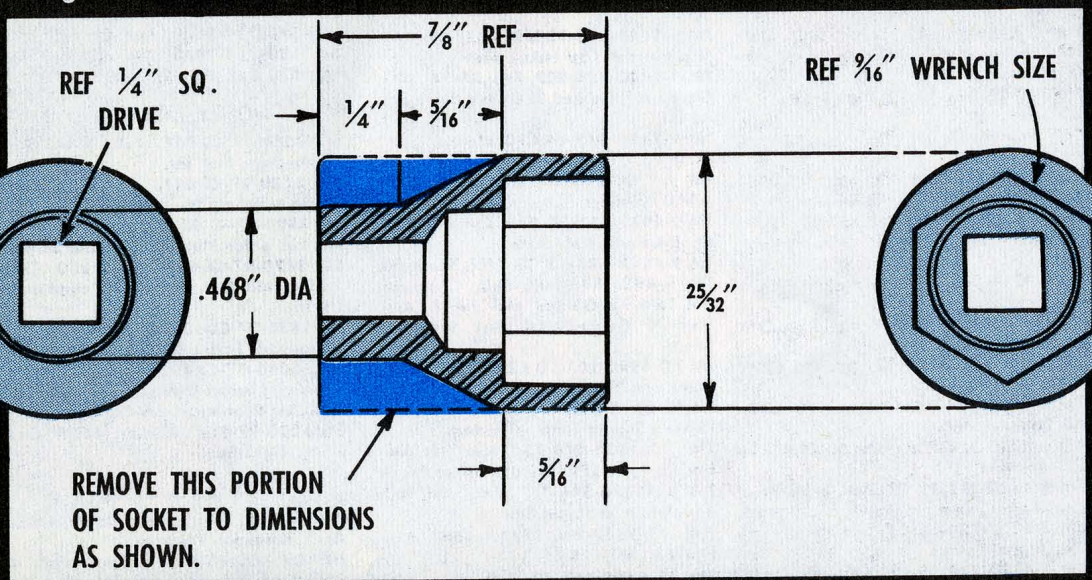
TIME-SAVING TAPERED TOOL

Dear Editor,

Tightening and loosening the nuts holding the AC generators in a CH-47 helicopter can be mighty frustrating, knuckle-knocking and down right time wasting, because of the tight area a mechanic has to operate in.

So-o-o-o, we've come up with a modified snap-on socket wrench.

Take a salvaged 7/8-in long snap-on socket, 1/4-in square drive with a 9/16-in opening, and cut the square drive end to .468-in diameter for about 1/4 inch toward the opening.

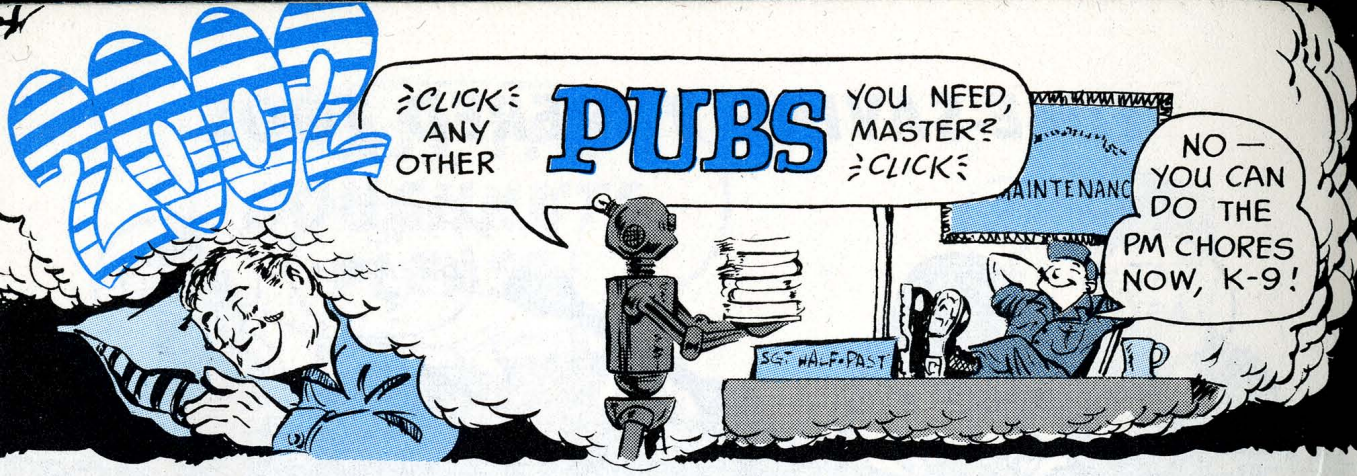


Then taper toward the opening for 5/16 inch so as not to cut down on the thickness of the socket wall at the opening end.

This tool tapering will allow for freer movement along the flanged walls of the Chinook generators.

Austin J. Schaefer
New Cumberland Army Depot

(Ed Note—Sounds good . . . and, it'll mean more time for maintenance.)



This is a selected list of recent pubs of interest to organizational maintenance personnel. The list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (May 68), and Ch 5 (Apr 69), TM's, TB's, etc.; DA Pam 310-6 (Jul 68), and Ch 3 (Apr 69), SC's and SM's; DA Pam 310-7 (Dec 68); MWO's.

TECHNICAL MANUALS

TM 5-331E, Feb, Utilization of Engr Const Equip Volume E Engr Spec Purpose & Expedient Equip.
TM 5-3431-223-12, Mar, Trailer Mtd Welding Shop.
TM 5-3740-206-25P, Feb, Pest Control Insecticide Sprayer Equip.
TM 5-3805-237-20P, Feb, DED Motorized Road Grader.
TM 5-3810-206-12, Jan, DED 40-Ton 2 Cu Yd Crawler Mtd Basic Unit Crane-Shovel.
TM 5-3825-217-12, Apr, 900 Gal Gravity Feed Water Collapsible Tank Distributor.
TM 5-3825-221-15 C2, Apr, Water Distributors.
TM 5-3895-281-15 C1, Apr, Bitum Heaters.
TM 5-4120-201-12 C3, Apr, 18,000 BTU Floor Mtg Air Conditioner.
TM 5-4120-273-15, Feb, 6,000 BTU/HR Elec Motor Driven Air Conditioning Units.
TM 5-4210-205-12 C2, Apr, Fire Fighting Equip.
TM 5-4310-221-20P, Feb, 125 CFM Air Compressors.
TM 5-4310-236-12P C2, Apr, 15 CFM Air Compressors.
TM 5-4310-261-15 C2, Apr, 60 CFM Air Compressors.
TM 5-4310-278-25P, Feb, 60 CFM Air Compressors.
TM 5-4320-211-12 C2, Apr, Petroleum Centrifugal Pump.
TM 5-4320-220-15 C3, Apr, Petroleum Centrifugal Pumps.
TM 5-4320-233-15 C1, Apr, Petroleum Centrifugal Pump.
TM 5-4930-212-25P, Dec, Petroleum Distrib Fueling Sys Air Transportable w/Flow Dividers & Hose Assemblies.
TM 5-4940-220-20P, Feb, Trk Mtd Contact Maint Shop Equip.
TM 5-6115-270-20P, Feb, 3KW 60 Cyc Eng Drvn Gen Sets.
TM 5-6115-271-15 C5, Apr, 3KW 400 Cyc 3KW 60 Cyc & 3KW DC Eng Drvn Gen Sets.
TM 5-6115-276-20P, Feb, 2KW 15V Eng Drvn Gen Sets.
TM 5-6115-290-15 C3, Apr, 4KW & Under Eng Drvn Gen Set.
TM 5-6115-295-20P, Jan, 3KW DC 28V Skid Mtd Gas Eng Gen Set.
TM 5-6115-296-20P, Jan, 10KW 60 Cyc Eng Drvn Gen Sets.
TM 5-6115-323-15 C3, Mar, 1.5KW 60 Cyc Eng Drvn Gen Sets.
TM 5-6675-225-15P C2, Apr, Surveying Equip.
TM 9-1015-215-20P, Mar, 4.2 Inch M30 Mortar on M24A1 Mount.
TM 9-1100-205-12, Apr, ADC XM129 (SADM).
TM 9-1100-226-12 C3, Apr, MADM.
TM 9-1100-250-12 C7, Mar, Nike-Herc.
TM 9-1410-585-14, Mar, Chaparral.
TM 9-1430-378-20P, Mar, Pershing Guided Missile XM78 Azmuth Laying Set.
TM 9-1440-250-15P/1/1 C1, Mar, Nike-Herc & Imp Nike-Herc.
TM 9-1440-585-20P, Feb, XM54 Chaparral Guided Msl Sys Intercept-Aerial.
TM 9-1450-375-14 C10, Mar, Pershing.
TM 9-2300-216-20, Jan, M107 Gun, M110 Howitzer.
TM 9-4910-487-10, Feb, Cylinder Head Grinding Machine.
TM 9-4935-303-12 C3, Mar, Sergeant.
TM 9-4935-587-20P, Feb, Chaparral AN/TSM-95 Guided Msl Sys & AN/DSM-79 Guided Msl Test Set Shop Equip.
TM 10-4940-201-10 C2, Apr, Petroleum Distrib.
TM 10-5410-221-24P, Feb, Rigid Const Expand Shelter Tents w/Airlock.
TM 11-5805-448-15, Mar, Lenkurt Elec Co Type 5216A Transformer Panel.
TM 11-5820-546-15, Mar, AN/TRC-111 Radio Repeater Set.
TM 11-5840-296-12/4, Jan, AN/FPA-15, AN/FPS-69.
TM 11-5895-262-10 C10, Mar, AN/MSQ-18.
TM 11-5895-264-25 C3, Mar, AN/MSG-4.
TM 11-6625-1530-15, Apr, Lab Types 7010 & 7011 Coaxial Noise-Generator Airborne Instruments.
TM 11-6625-1725-15, Apr, E. F. E. Laboratories Meter Panel TO50-29N003.
TM 11-6625-1842-12, Mar, AN/USM-264 Sig Gen.
TM 11-6720-244-12, Feb, Still Picture KS-15(4) Camera Set.
TM 55-1905-201-12P C5, Apr, Marine Equip.

MODIFICATION WORK ORDERS

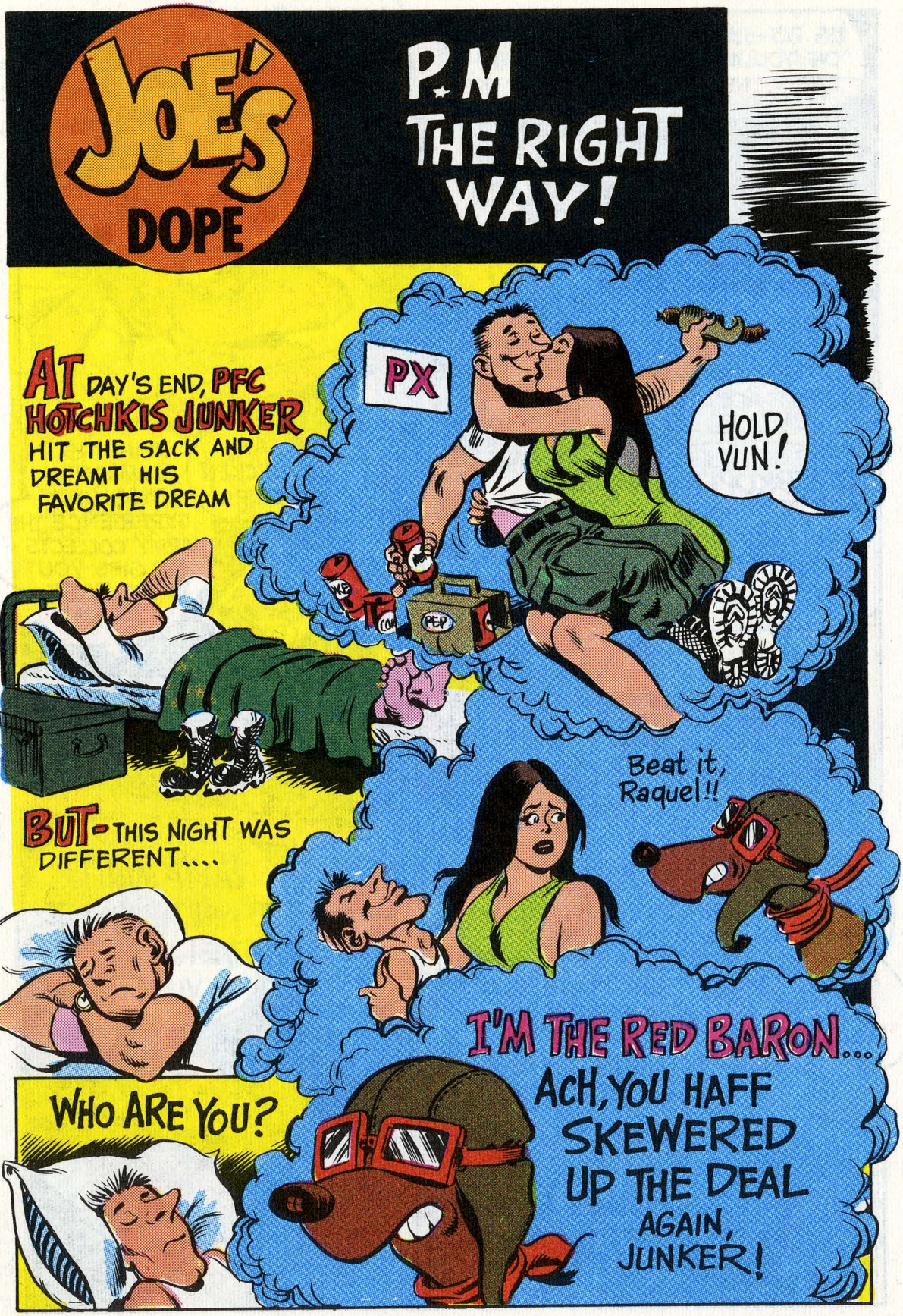
9-1005-262-30/1, Apr, M24 7 .62-MM Mach Gun Subsys Helicopter Armament.
9-1220-221-30/4, Mar, M18 Gun Direction Computer.
9-1240-346-30/1, Apr, M21A1 Telescope Mount, M101/M101A1 105-MM Towed Howitzer.
9-2330-212-20/10, Mar, Nike-Herc Imp Nike-Herc M406 M406A1 M406E1 M406E2 Antenna Mount Low Bed Trailer.
9-4940-254-30/1/3, Mar, Imp Nike-Herc Simulator Test Set Group 10167770.
55-1500-210-30/16, Mar, CH-47.
55-1510-204-30/13, Mar, OV-1.
55-1510-210-30/9, Apr, CH-47.
55-1520-214-30/28, Apr, OH-6.
55-1520-221-20/12, Apr, AH-1G.

SUPPLY CATALOGS

SC 1080-97-CL-E07, Feb, AAA Gun Camouflage Net Set.
SC 2230-97-CL-E01, Mar, RR Track Maint & Rehab Equip RR Const Set.
SC 3820-97-CL-E03, Mar, Rock Drilling Equip for Placement of Explosives.
SC 3820-97-CL-E09, Mar, 250 CFM Trailer Mtd Pneum Tool & Compressor Outfit.
SC 5430-97-CL-E01, Mar, 10,000 Gal Collapsible Fabric Petroleum Tank Assy.
SC 6210-97-CL-E02, Mar, Airfield Runway Aircraft Operational Area Light Set Supplementary Equip.
SC 6230-97-CL-E02, Mar, 15KW Gen Illum. Light Set.

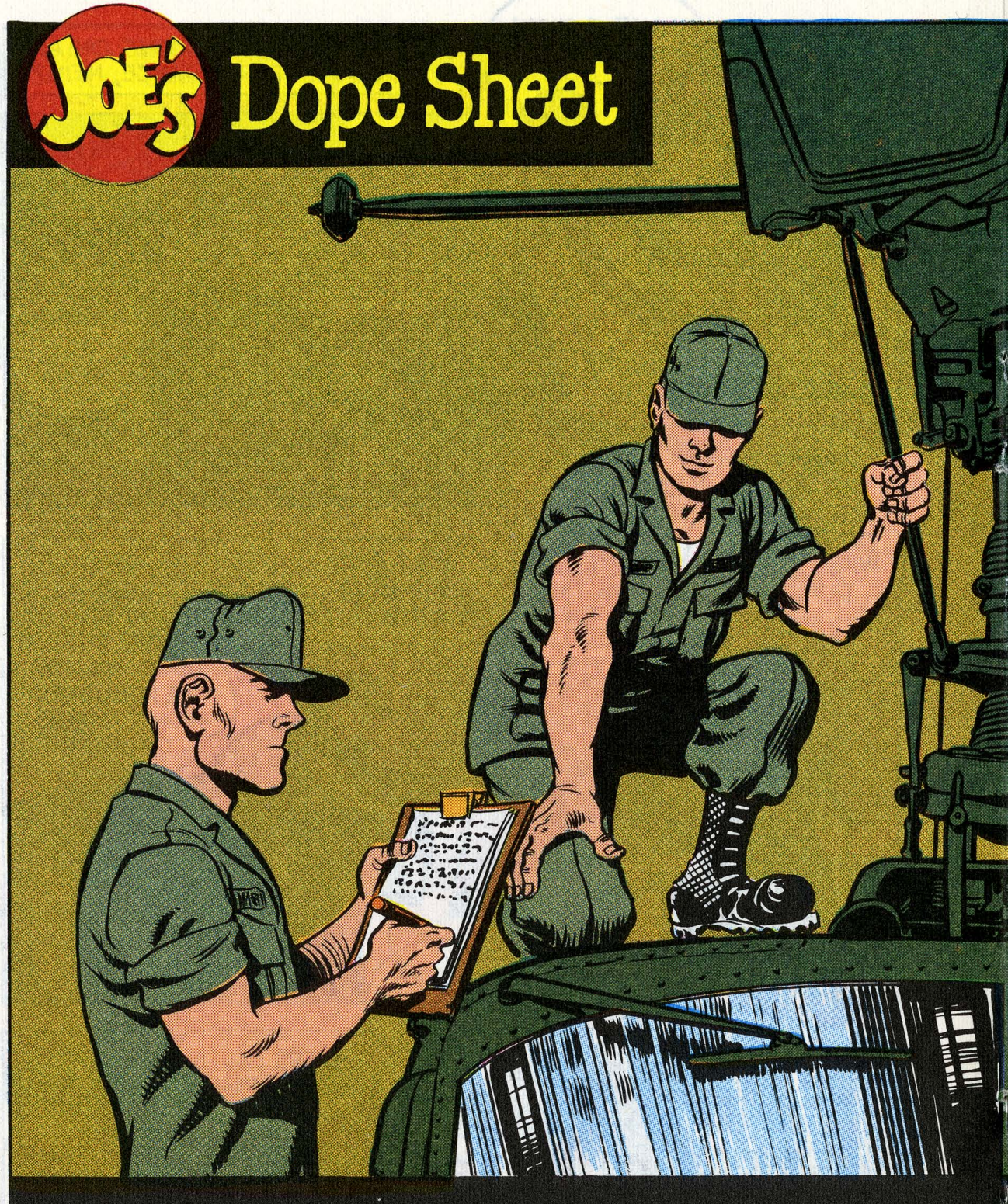
MISCELLANEOUS

AR 715-22, Mar, High Dollar Spare Parts Breakout Program.
DA Cir 600-63, May, Conversion to SSAN for Personnel Identification.
DA Cir 750-29, May, Changes to TAERS.
DA Cir 750-30, May, Modification Work Order Control.
DA Form 2715, Apr, Unit Readiness Report.
FT 105-AS-2 C2, Feb, M108 105-MM Howitzer.
TB 10-1600-200-20/1, Mar, Fixed/Rotor Wing & Aerial Deliv Equip for Parachute Pers.

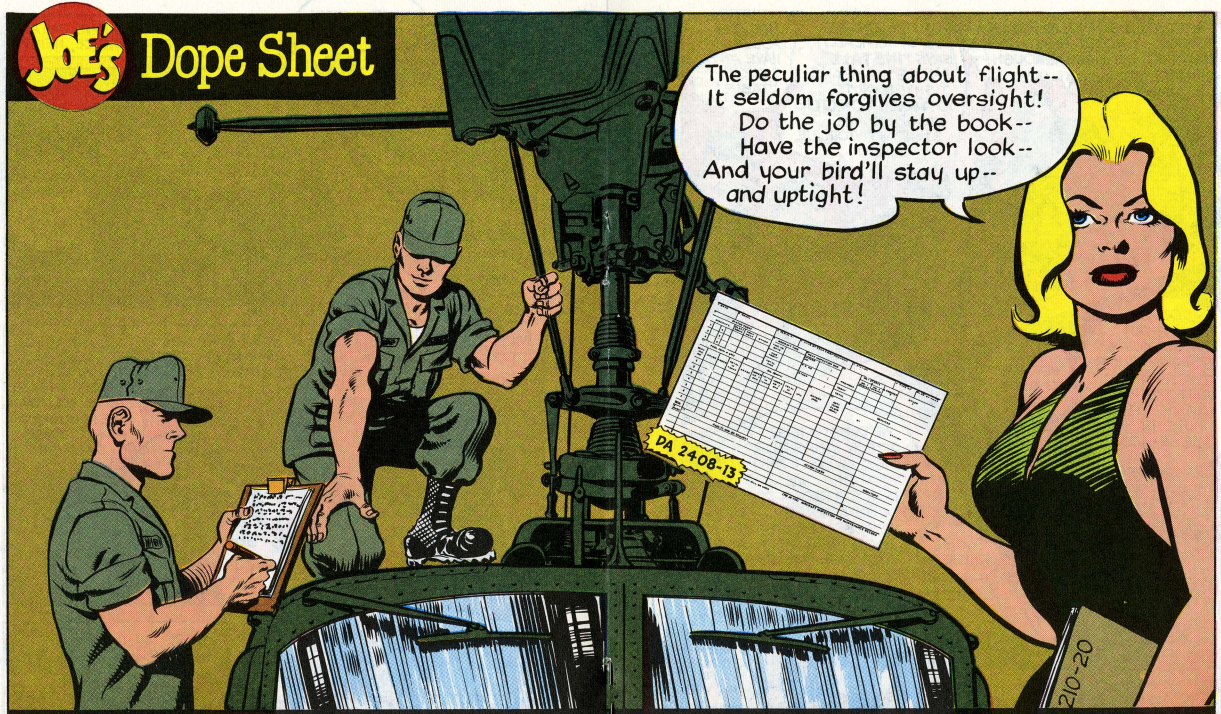

JOE'S DOPE
P.M THE RIGHT WAY!
AT DAY'S END, PFC HOTCHKIS JUNKER HIT THE SACK AND DREAMT HIS FAVORITE DREAM
PX
HOLD VUN!
PEP
BUT- THIS NIGHT WAS DIFFERENT....
Beat it, Raquel!!
I'M THE RED BARON...
ACH, YOU HAFF SKEWERED UP THE DEAL AGAIN, JUNKER!
WHO ARE YOU?

US FLY-TYPES DEPEND ON YOU MAINTENANCE TYPES... NEIN? ODER JA?
YAH!! SO??
ABER, YOU SKEWER UP BY LEAVING LOOSE BOLTS UND SHLOPPY WORK. VE HAF ACCIDENTS!
WADDYA MEAN, MAN... I'M A NATURAL BORN MECHANIC... YOU'RE TALKIN' TO THE HOTTEST DRAGSTER IN PASADENA... I CAN FIX ANYTHING!
DUMBKOPFF, YOU ARE DEALING MIT MILITARY SHTUFF ...VERRY, VERRY KOMPLI-KATID!!
BUT, THERE'RE ALWAYS EASY WAYS TO DO ANY MAINTENANCE JOB!
NEIN, ONLY VUN VAY!! TH' ARMY VAY!
AH, CHICKEN CHIPS!
NEIN, IT'S COMMON ZENSE UND EXPERIENCE THE ARMY COLLECTS — UND GIFS YOU IN THE DASH 20 TM'S.
AAH... TM'S IS A DRAG, I KNOW IT ALL INSTINCTIVELY!
FEH, VOT'S YOUR FARSHTOONKIN INSTINCT COMPARED TO THE ACCUMULATED YEARS OF KNOW-HOW BY TECHNICIANS, PILOTS AND MECHANICS — VITCH MAKES UP THE MAINTENANCE PROCEDURES!?
AHH... DARLING, WHERE WERE WE?
VAITAMINIT... I AIN'T FINISHED YET... HOLT IT VUNCE!

COME, I SHOW YOU...
POP
THIS IS YOU WORKING ON AN AIRCRAFT... FOR INSTANCE, NEIN?
HMM ... NEEDS A LOCK NUT AND WIRE... I BETTER GET THE FSN AND PICK UP SOME AT SUPPLY!
NAAH... THAT'S A HANG UP!
HERE'S A NUT AND I GOT A PIECE OF RADIO WIRE... THEY'LL DO...
BUT, HOTCHKIS, DOES THE NUT FIT EXACTLY... AND IS THE WIRE THE RIGHT KIND?? MIGHT BE A DIFFERENT METAL!
WHAT ARE YOU... SOME KINDA APOLOGIST FOR THE ESTABLISHMENT?
WELL, NO, BUT BACK AT SCHOOL THEY TAUGHT US TO FOLLOW THE PUBLISHED MAINTENANCE DOCTRINE!
BUT, THIS IS THE FIELD, MAN! THIS IS WHERE IT ALL IS!
JUST WHERE DO YOU THINK THE SCHOOL GETS ITS IDEAS FROM IN THE FIRST PLACE?
WHERE CAN I PUT THIS PINUP!
YOU GOT A PAPER CLIP ON YA?

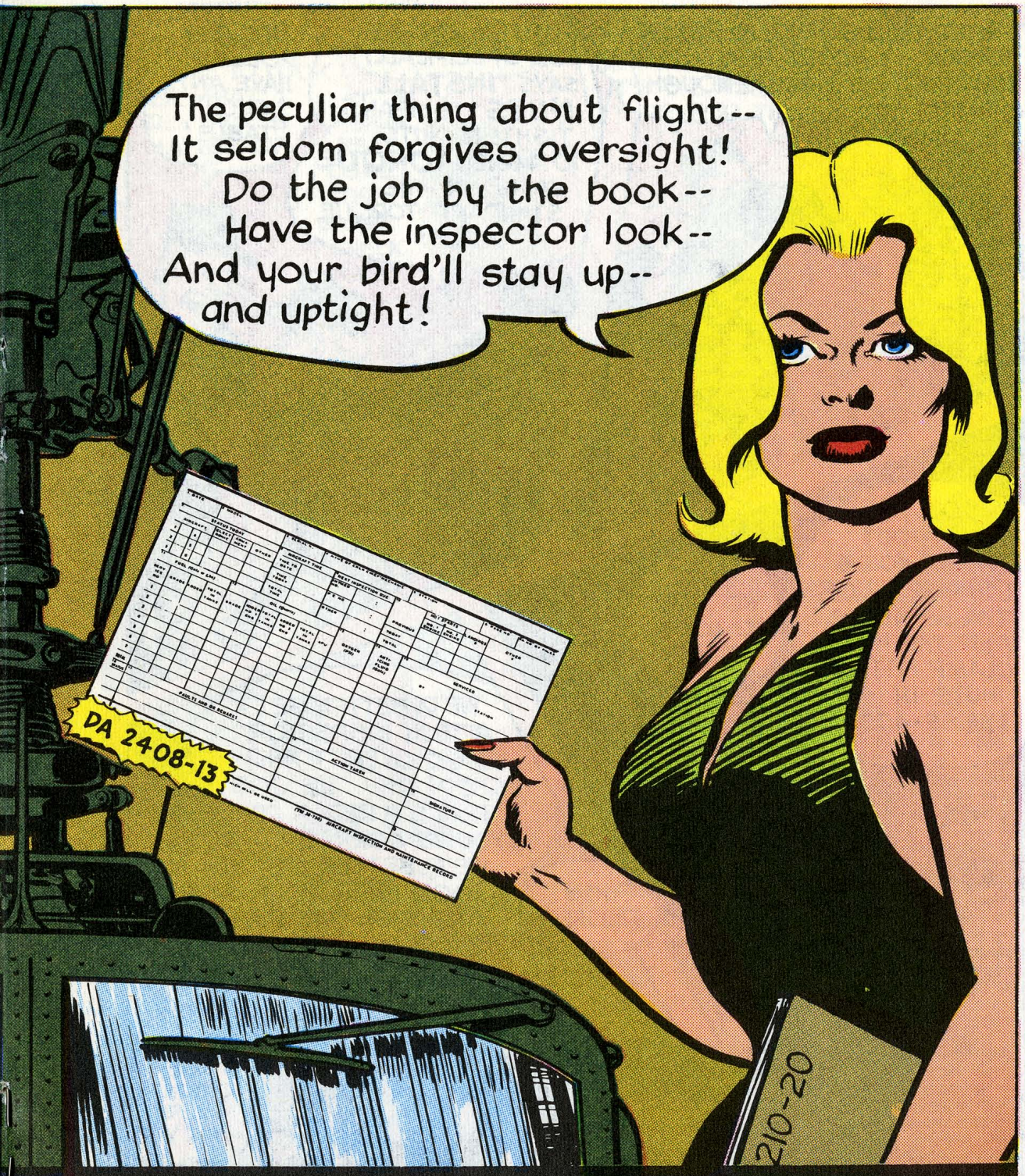


IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BUL



WE HAVE THE WORLD'S BEST EQUIPMENT... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.



QUIPMENT... *Take care of it*

LLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

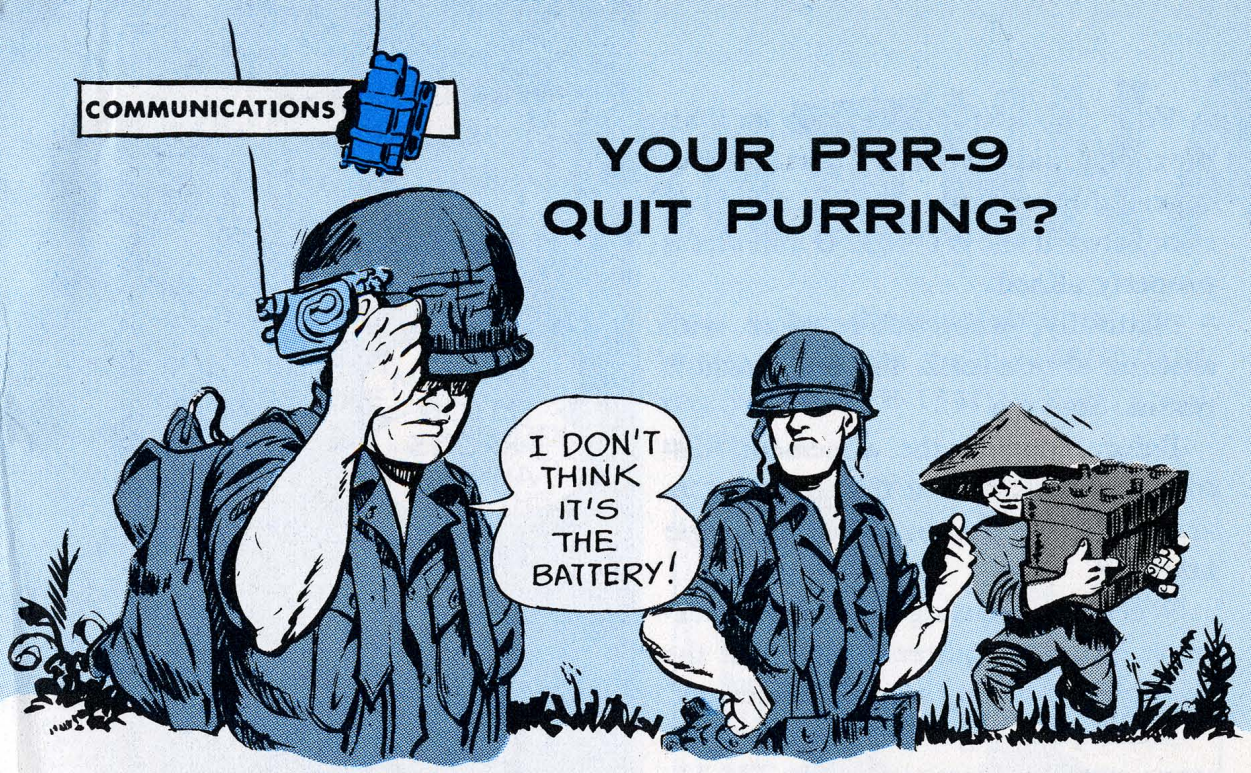
WHAT TORQUE YOU USIN', JUNKER?
I DUNNO, IT FEELS ABOUT RIGHT... THIS IS GOOD ENOUGH!
BUT WHEN THE PUB SPECIFICALLY SAYS "INSTALL NUTS" IT MEANS TIGHTEN NUTS TO A GIVEN TORQUE VALUE IN THE STANDARD TORQUE TABLE!
THIS PUB DOESN'T HAVE ANY SUCH TABLE!
SO, HOW ABOUT TM 55-405-6 (CHANGE 1) OR TM 55-405-2 AND THE HOSE CLAMP FITTING NUTS IN TM 55-405-7!
GOT NO TIME TO LOOK IT UP!!
WE'D BETTER GET A TECH INSPECTOR TO GO OVER IT AND "CHOP" OFF THE JOB... THAT'S A RED X CONDITION YOU'VE CORRECTED SO... WE'D BETTER GET HIM TO LOOK OVER YOUR WORK AND SIGN THE DA FORM 2408-13... THAT'S QUALITY CONTROL...
JOB FINISHED!
HELLO, SARGE. C'MON OVER, WILL YA?

WHO NEEDS ANYONE TO LOOK OVER WHAT I DID... THIS IS A MATTER OF PRIDE WITH ME!!
HMMMMM...
SHHH... HERE COMES THE SARGE T'CHECK OUT!
WHERE'D YOU GET THIS NUT... IT'S THE WRONG TYPE FOR THIS FITTING?
BUT, SARGE, IT LOOKS OKAY... DON'T GET SO NIT PICKY!
?
AND THIS LOCK WIRE... LOOK, A COUPLE OF BENDS AND
IT MAY LOOK GOOD— BUT THE FIRST JOLT AND SHE'LL WIGGLE LOOSE!
DID YOU TORQUE THESE PROPERLY? THEY LOOK TOO TIGHT... THE PLATE SHOULD HAVE A LITTLE PLAY...
HUH?
A BIT OF BUMPING IN TURBULENCE AND THE BOLTS WILL SHEAR OFF ON YA!
YOU'VE GOT TO FOLLOW THE RIGHT TM ON WHAT HARDWARE TO USE AND PROPER TORQUE VALUES.

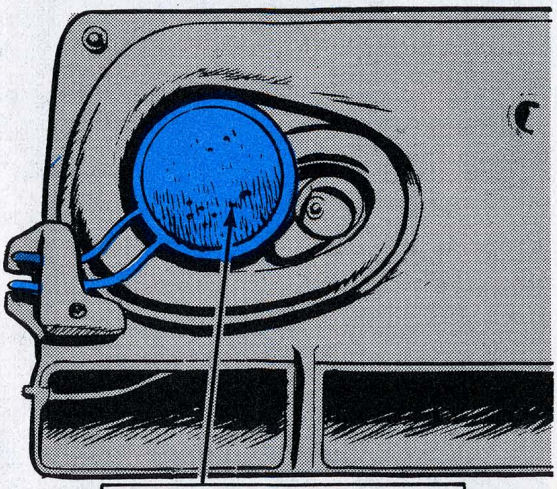
BUT, SARGE, WILL YA CHOP-OFF ON MY 2408-13... HERE IN BLOCK 18!
YOU'LL GET MY CHOP... AFTER YOU'VE DONE THE JOB RIGHT!
SO LONG, HOTCHKIS, SEE YOU LATER.
THIS IS A HECK OF A TIME TO GET ME TO INSPECT A JOB... WHEN DID YOU GET SO GUNG HO!!
LISTEN, SARGE, YOU CAN'T BE TOO CAREFUL AROUND AIRCRAFT... THESE FLY-TYPES DEPEND ON THE MAINTENANCE I DO... ER, BESIDES I GOTTA GET BACK TO SLEEP...

COMMUNICATIONS

YOUR PRR-9 QUIT PURRING?



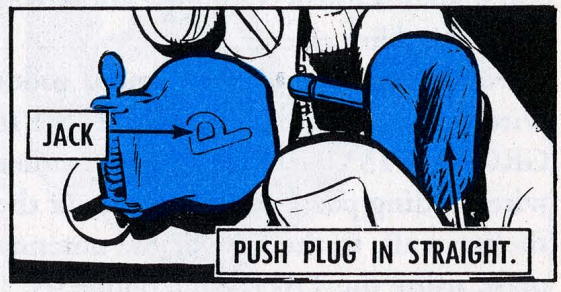
Next time your AN/PRR-9 squad radio receiver stops purring at you it may be the clue to check out your receiver horn as well as the battery.



The clue is heat: summertime, SEA, or whatever. Heat swells the glue in the receiver horn element. When the gook swells, it reduces sound or gives you . . . nothing.

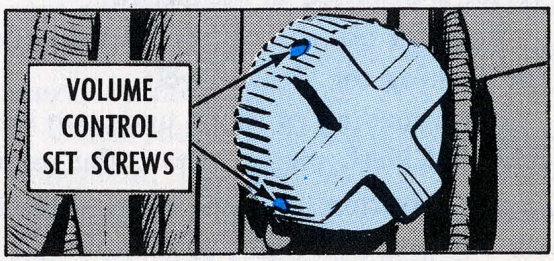
So, when you're low, the temp's high, and a good battery fails to give you that friendly ol' rushin' noise when you turn up the volume, try a new horn.

More on sound: When you connect the earphone, push the plug straight into the receiver jack. Wiggling it into



place bends the connector spring . . . which can put the zap on your receiver.

An occasional check on the setscrews of your volume control can keep you in business. The screws work loose, and the sound doesn't get with you. Keep 'em tight!



Your AN/GRC-50(V) radio set'll hit the communications high-spots and give dependable service — but it'll make out even better if the AT-903/G antenna is properly alined.

Naturally, what you're after with antenna alinement is the best possible results. So-o-o-o-

Before starting the alinement, disconnect the patches at the repeaters, to arrange a multi-hop system as single hops.

When you're using PCM multiplexers as terminal equipment, turn off the multiplexers during antenna alinement.

When you've got the mast and antenna installed (instructions in TM 11-5820-538-12 Jun 67) and your single-hop system is set up, then rotate the antenna toward the target station. For this, you can use info from a topographical map. Establish communication over the order wire circuit.

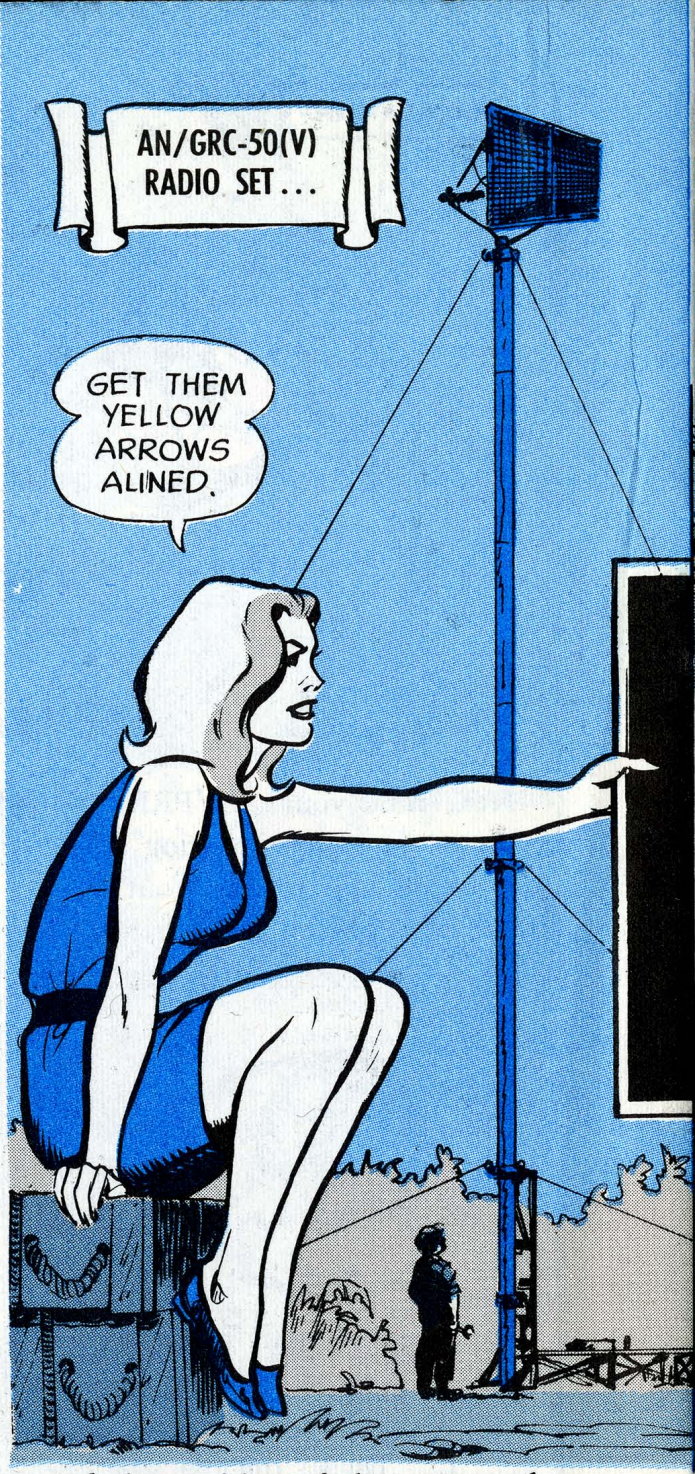
Next, you extend the remote order wire circuit from receiver R-1148(P)/GRC or R-1331(P)/GRC, or the order wire binding posts on the outside of the shelter wall, to the base of the antenna mast, using the TA-312 telephone set.

Connect your H-91 headset (if it's available) to the TA-312 to free both hands for mast rotation while you're communicating.

Don't crank your TA-312 for signaling unless the TA-182 telephone converter is installed in the circuit.

You can use the following methods for peaking the signal level:

For a reading of 25 or under on the REC SIGNAL meter, rotate the mast in one direction until the noise level of the order wire circuit increases sharply; record the position of the antenna by marking the location of the yellow arrow on the base plate.



Rotate the mast back through the maximum signal level until the noise level increases sharply. You can record this position by marking the location of the yellow arrow on the base plate. Lock the mast in this position.

ALINE THAT ANTENNA

Your AN/GRC-50(V) radio set'll hit the communications high-spots and give dependable service—but it'll make out even better if the AT-903/G antenna is properly alined.

Naturally, what you're after with antenna alinement is the best possible results. So-o-o-o-

Before starting the alinement, disconnect the patches at the repeaters, to arrange a multi-hop system as single hops.

When you're using PCM multiplexers as terminal equipment, turn off the multiplexers during antenna alinement.

When you've got the mast and antenna installed (instructions in TM 11-5820-538-12 Jun 67) and your single-hop system is set up, then rotate the antenna toward the target station. For this, you can use info from a topographical map. Establish communication over the order wire circuit.

Next, you extend the remote order wire circuit from receiver R-1148(P)/GRC or R-1331(P)/GRC, or the order wire binding posts on the outside of the shelter wall, to the base of the antenna mast, using the TA-312 telephone set.

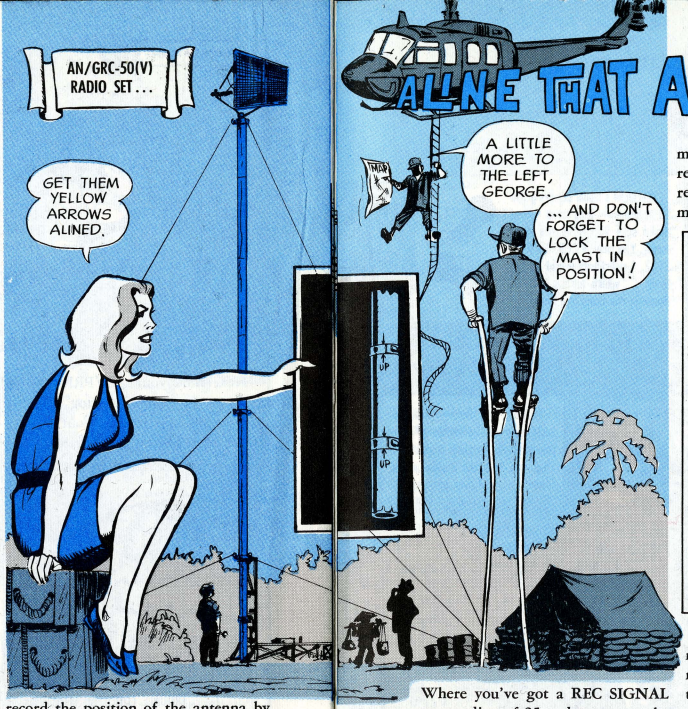
Connect your H-91 headset (if it's available) to the TA-312 to free both hands for mast rotation while you're communicating.

Don't crank your TA-312 for signaling unless the TA-182 telephone converter is installed in the circuit.

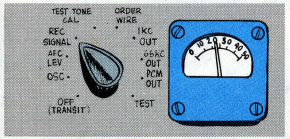
You can use the following methods for peaking the signal level:

For a reading of 25 or under on the REC SIGNAL meter, rotate the mast in one direction until the noise level of the order wire circuit increases sharply; record the position of the antenna by marking the location of the yellow arrow on the base plate.

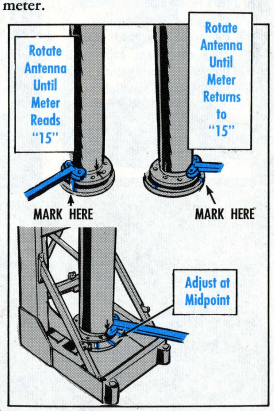
Rotate the mast back through the maximum signal level until the noise level increases sharply. You can record this position by marking the location of the yellow arrow on the base plate. Lock the mast in this position.



Where you've got a REC SIGNAL meter reading of 25 and up, rotate the mast in one direction until you get a reading of 15 on the R-1148(P)/GRC receiver or the R-1331(P)/GRC multimeter.



CHECK THE REC SIGNAL METER FOR PROPER SETTINGS

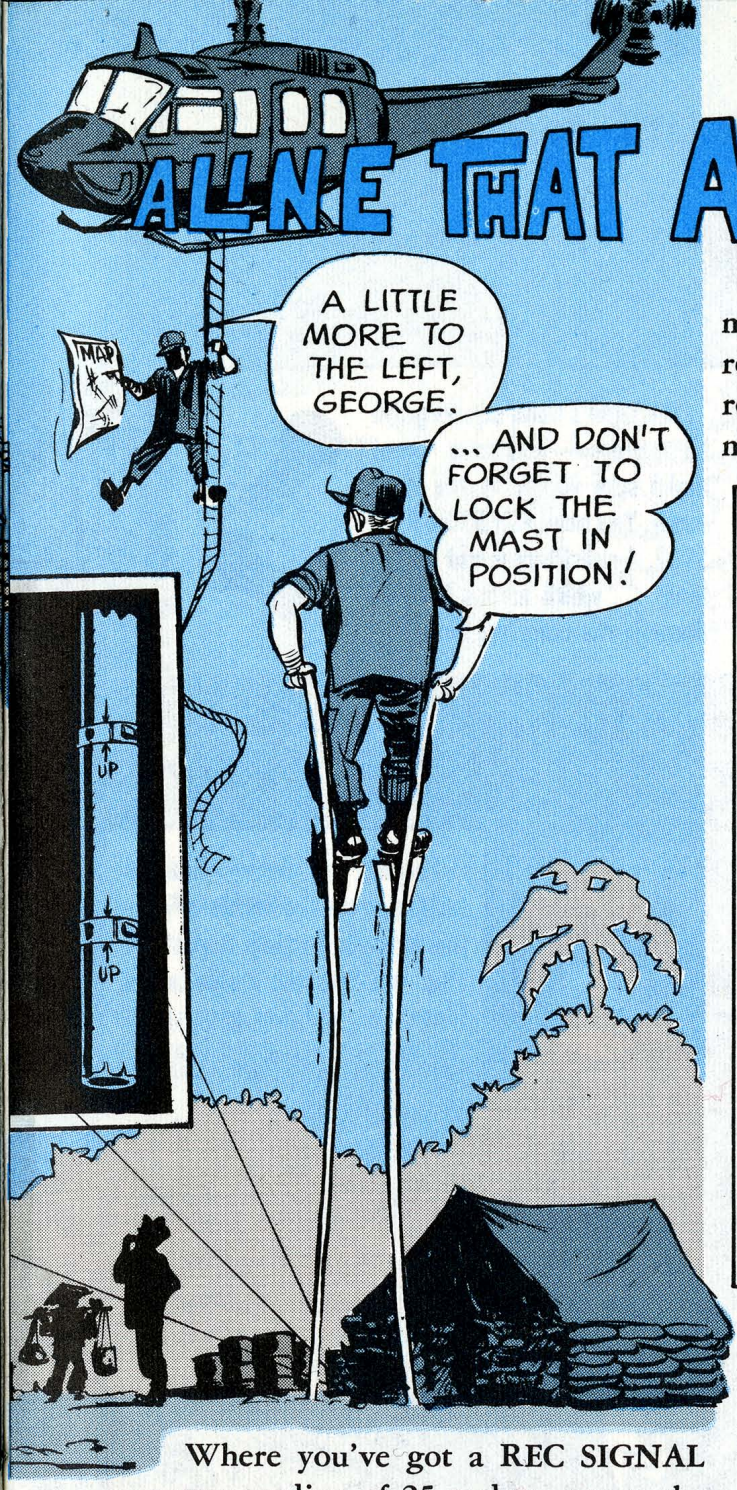


Record the position of the mast by marking the location of the yellow arrow on the base plate. Rotate the mast through the maximum signal level until you get a 15 reading on the meter.

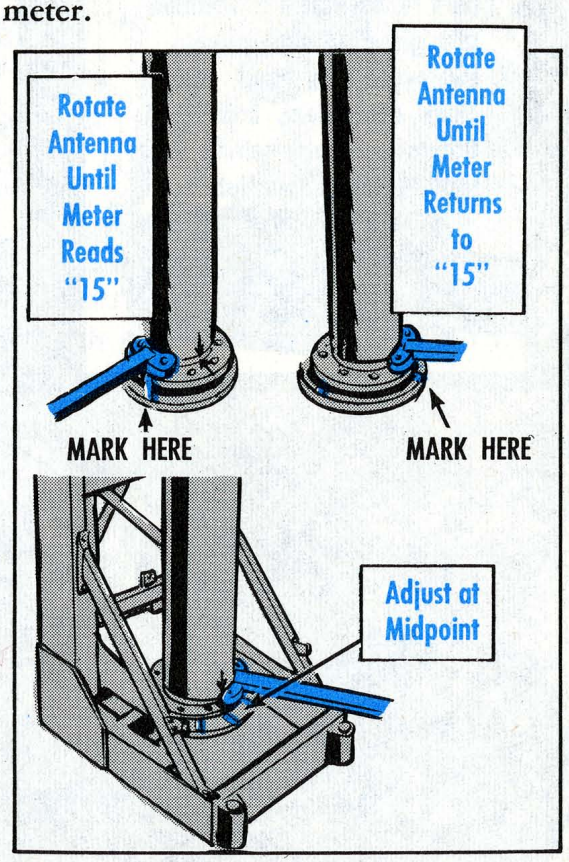
Mark the position of the yellow arrow on the base plate, then rotate the mast to a point midway between the marks on the base plate.

When you've completed the antenna alinement, lock the mast in position, reconnect the repeater patches, and start your electrical system alinement.

ALINE THAT ANTENNA



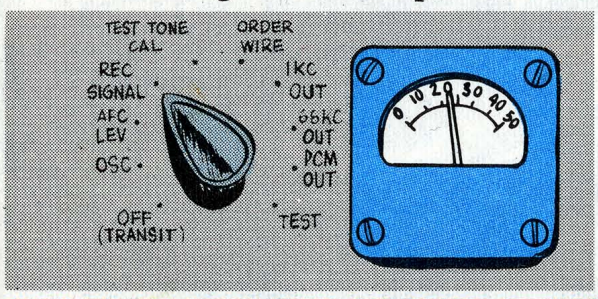
Where you've got a REC SIGNAL meter reading of 25 and up, rotate the mast in one direction until you get a reading of 15 on the R-1148(P)/GRC receiver or the R-1331(P)/GRC multimeter.



Record the position of the mast by marking the location of the yellow arrow on the base plate. Rotate the mast through the maximum signal level until you get a 15 reading on the meter.

Mark the position of the yellow arrow on the base plate, then rotate the mast to a point midway between the marks on the base plate.

When you've completed the antenna alinement, lock the mast in position, reconnect the repeater patches, and start your electrical system alinement.



CHECK THE REC SIGNAL METER FOR PROPER SETTINGS

NIGHT VISION NOTES

Tonight, or any other night you plan to use your night vision sight AN/TVS-2 (Varo Models 9927 or 9927A), is the perfect time to apply a basic PM pointer or 2 which'll keep it, and you, in action.

Resist the urge to pry the reticle power cable loose. That hard rubber shield is intentionally glued to the chassis . . . for several very good reasons. Think about 'em, and resist. Otherwise, you're setting your sight up for a repair job.

The sight's hood screws gotta be in place — and snug — but make sure you have the right screw. You need FSN 5305-914-5902. A substitute might be too long . . . which means it could damage the objective lens.

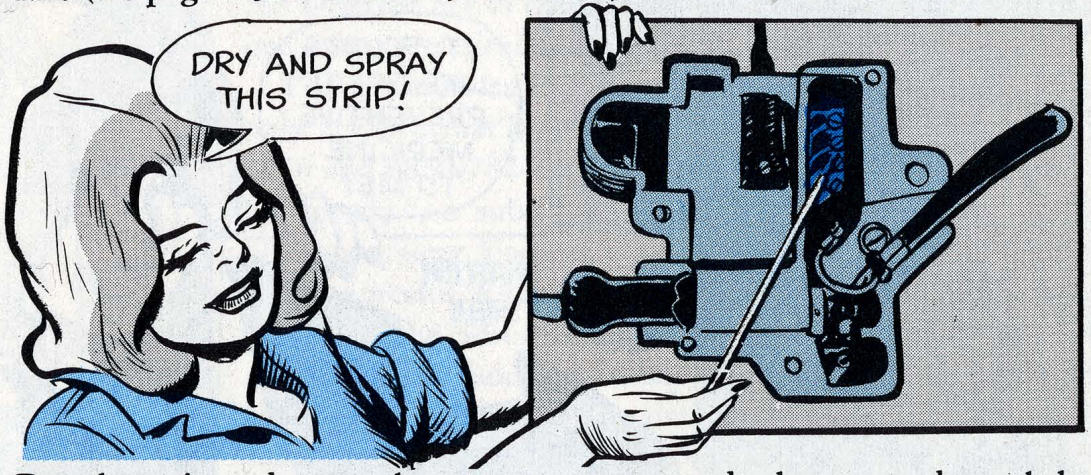
Forget the heavy-handed technique on the reticle adjustment knob. Forcing it past its stop can tear the inside wires loose . . . and zap your sight.

Moisture can make a drip of the terminal strip in your MK-1039/G headset-microphone kit (used on CVC helmets with AN/VRC-12 series radio sets).

In heavy rains water can seep onto the terminals of the CX-10453/G cord assembly and short 'em out. You can cure it, so hang in there while you get some clues.

If a drippy strip happens to you, you'll get a loud, continuing squeal in all 3 switch positions of the MK-1039 while it's connected to the C-2298/VRC intercom control. Further, the radio set will stay keyed. You can't transmit, and you can't use intercom.

You organization repairmen can put the fix on it like so: Take the headset-mike off the helmet. Eyeball the 4-screw terminal strip that's giving you the trouble (see page 1-3 of TM 11-5965-282-15).



Dry the strip and spray the screw connector and other exposed metal there with MFP varnish FSN 5970-683-4297 or 5970-548-9520. That's quart-size . . . and do what it says on the container.

When you remount the MK-1039, be sure you don't scratch the varnish.

YOUR HAND DOESN'T NEED THIS SHAKER

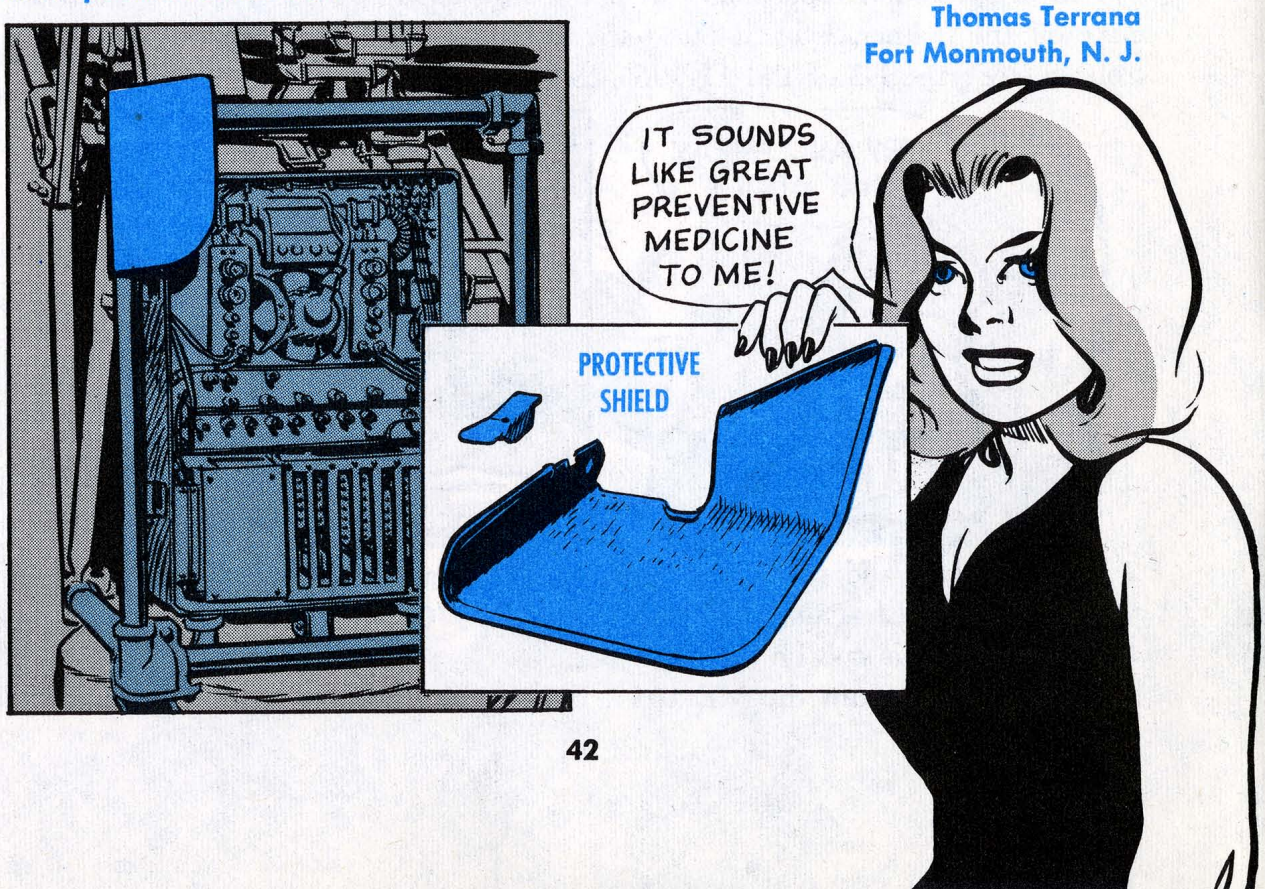
Dear Editor,

To discourage personnel working around the AN/TPN-8 and -18 radar sets from mangling a hand while the "cocktail shaker" (elevation actuator arm) is operating, we came up with an 8- by 8-in aluminum safety plate.

The plate attaches to the frame around the radar set and keeps the operator from using the frame as a hand rest. With a 1-in clearance between frame and arm, using the frame as a rest can result in a serious injury from the moving cocktail shaker.

Any kind of guard or safety plate would be satisfactory, just so it doesn't interfere with operation of the arm.

Thomas Terrana
Fort Monmouth, N. J.



CV-1548/G TELEPHONE SIGNAL CONVERTER...

BURNED-OUT BABY

Is R-5 resistor ruination plaguing the 18A3B panel of your CV-1548/G telephone signal converter?

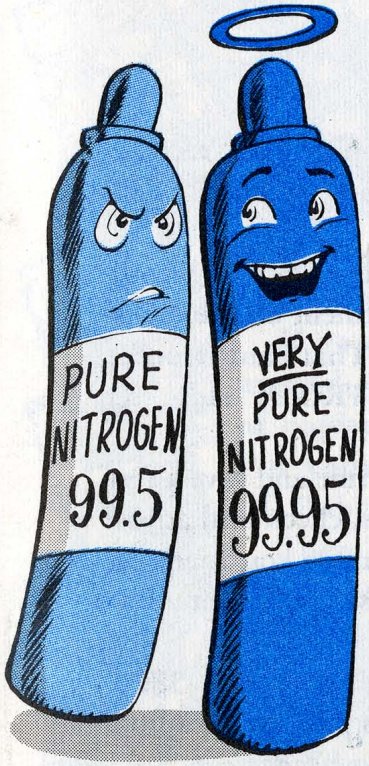
Reversed polarity of the tip and ring wires can heat up the R-5 . . . causing visible scorching of the panel.

This can be caused by problems in your MTC-1 or MTC-9 switchboard, which could be next door or miles down the line.

Thing to do is: Contact the operator of the switchboard and tell him the tip and ring wires seem to be reversed.

The operator should then call his maintenance man to check into reverse polarity of the tip and ring assembly.

HERE'S A GASSER FOR YOU



Nitrogen gas that's just a scope hair off required purity can put the $12,000.00 compressor of your AN/AAS-14A Infrared Detector Set in the salvage yard. Naturally, that knocks out a No. 1 tactical device.

The gas must be 99.95 per cent pure. **No less.** There are only 2 FSN's that'll get you the purity you need: 6830-656-1596 and 6830-782-2643. When you use this number — 2643 — specify "no substitute." The only difference is in the size of the container. You can't use any other without tearing up the compressor. A substitute gas (even 99.5 per cent pure) plugs up the adsorber in the compressor-refrigerator in less than 100 hours operation.

FSN 6830-656-1596 gets you a 200-cubic-ft container. The only other one you should accept is FSN 6830-782-2643, which gets you a 184-cubic-ft container of the same purity nitrogen gas. Accept no substitute.

You should spell out the only acceptable substitute on your requisition form.

KEEP THAT KLYSTRON

Keep that V1501 (MKK-24) klystron tube in your AN/MPQ-4A radar set, at least until you check it out.

Even if it fails to oscillate, it may still be good.

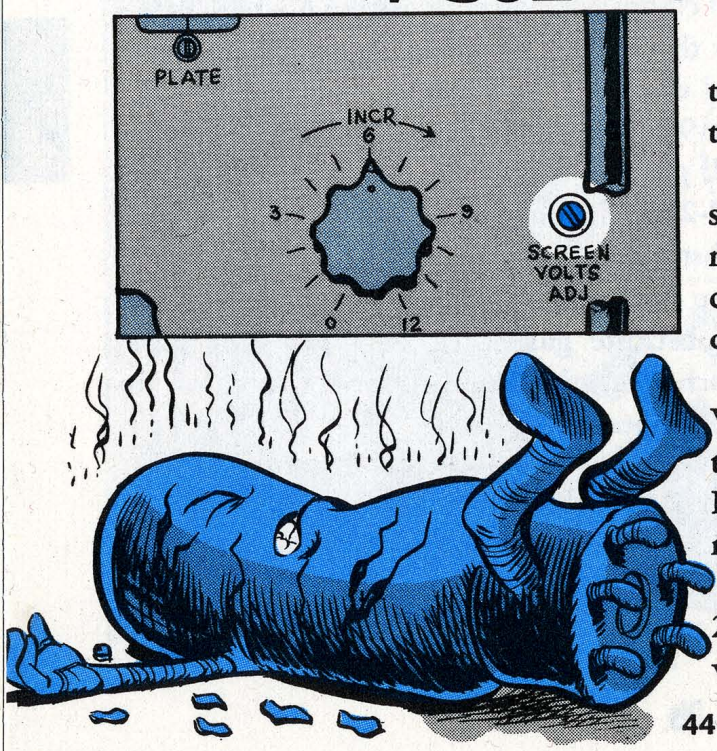
Y'see, the jumper connecting the heater cathode DC ground return is missing from the plug on all klystrons procured on Contract DAAB-05-67-C-1116.

Have your support shop measure the resistance between pins A and C on the plug. If the measurement indicates an open circuit, the klystron won't oscillate.

Be sure to install the klystron like it says in TM 11-5840-208-20. Set the klystron tuning screw and klystron drive assembly to the extreme clockwise position.

Adjust the klystron as per para 29A through 29D of TM 11-5840-208-20. If you run into any problems, call for help from support.

T-302 HOT HEADS



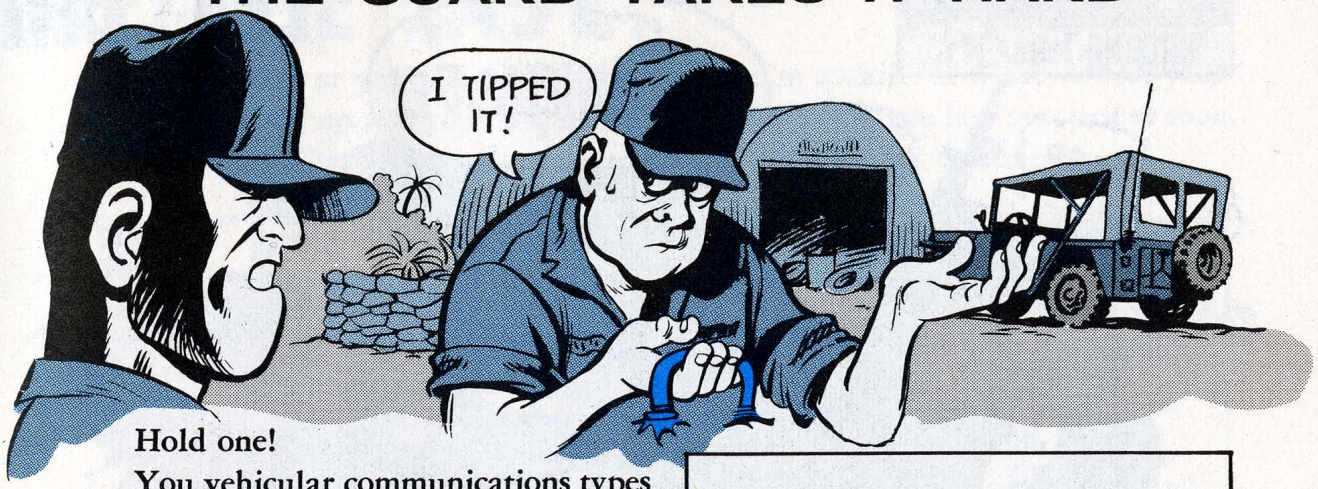
Are you burning out V1 HV rectifier tubes in the PP-685A of your T-302 transmitter?

Most likely, the bad guy is wrong screen voltage adjustment on the transmitter tuning heads. That kinda trouble can put your AN/TRC-24 radio set down.

To head off downtime and save a few V1 (Type 836) tubes, check and adjust the screen voltage during your periodic PM and whenever else you've got a few minutes to use up.

Para 3-5j, page 3-28 of TM 11-5820-287-12 (Apr 67) tells you how to adjust voltage on the tuning heads.

THE GUARD TAKES IT HARD

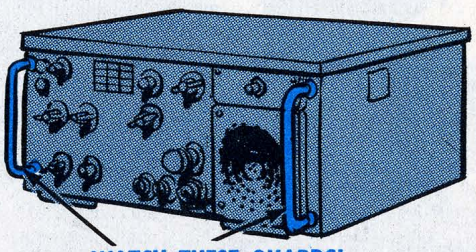


Hold one!

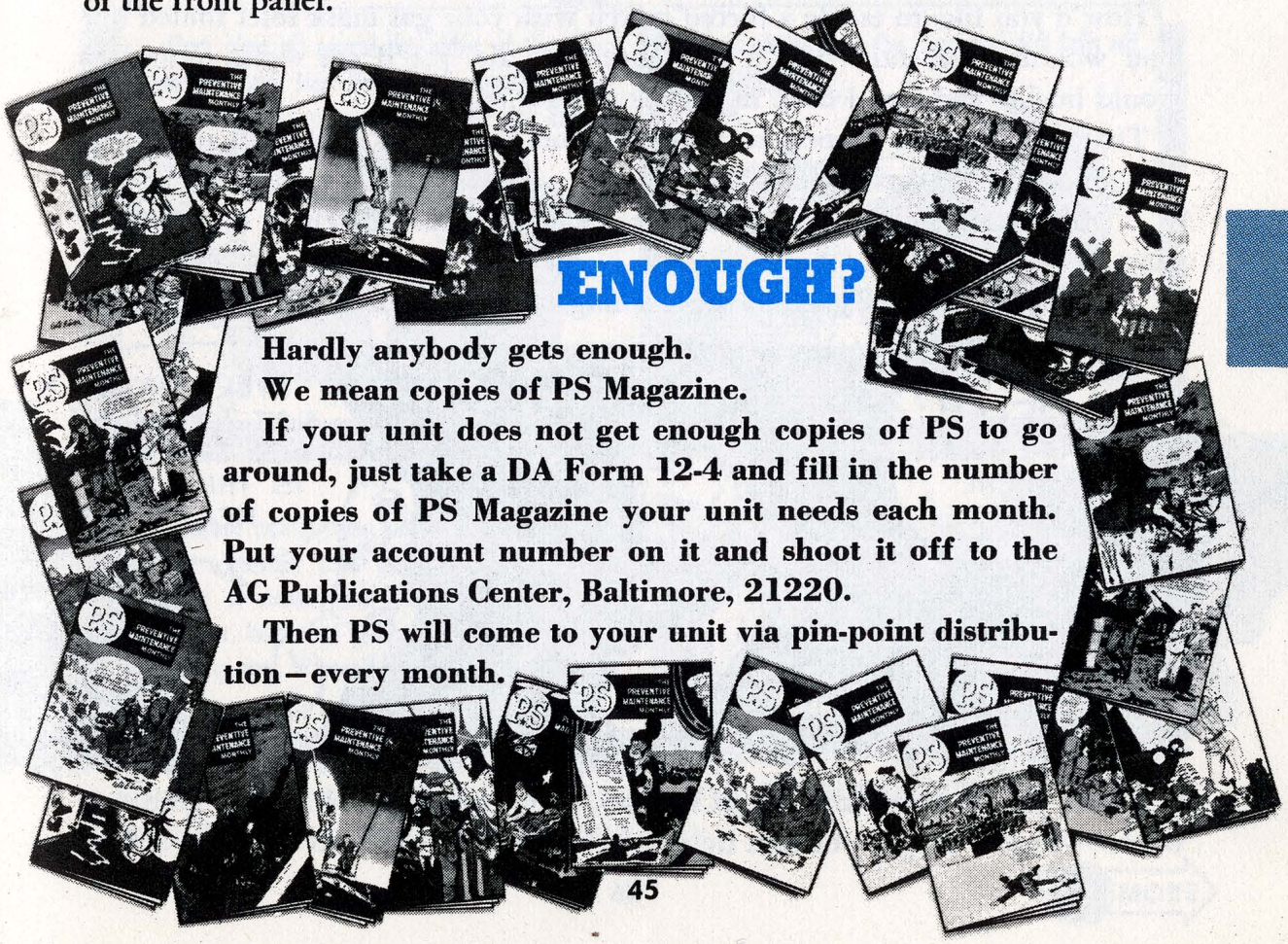
You vehicular communications types gotta take it easy when you're handling that AN/VRC-12 series of radio set outside its regular vehicle installation.

You could botch the guards on the components.

Tipping the RT or receiver over on either of these guards can tear 'em out of the front panel.



WATCH THESE GUARDS!



ENOUGH?

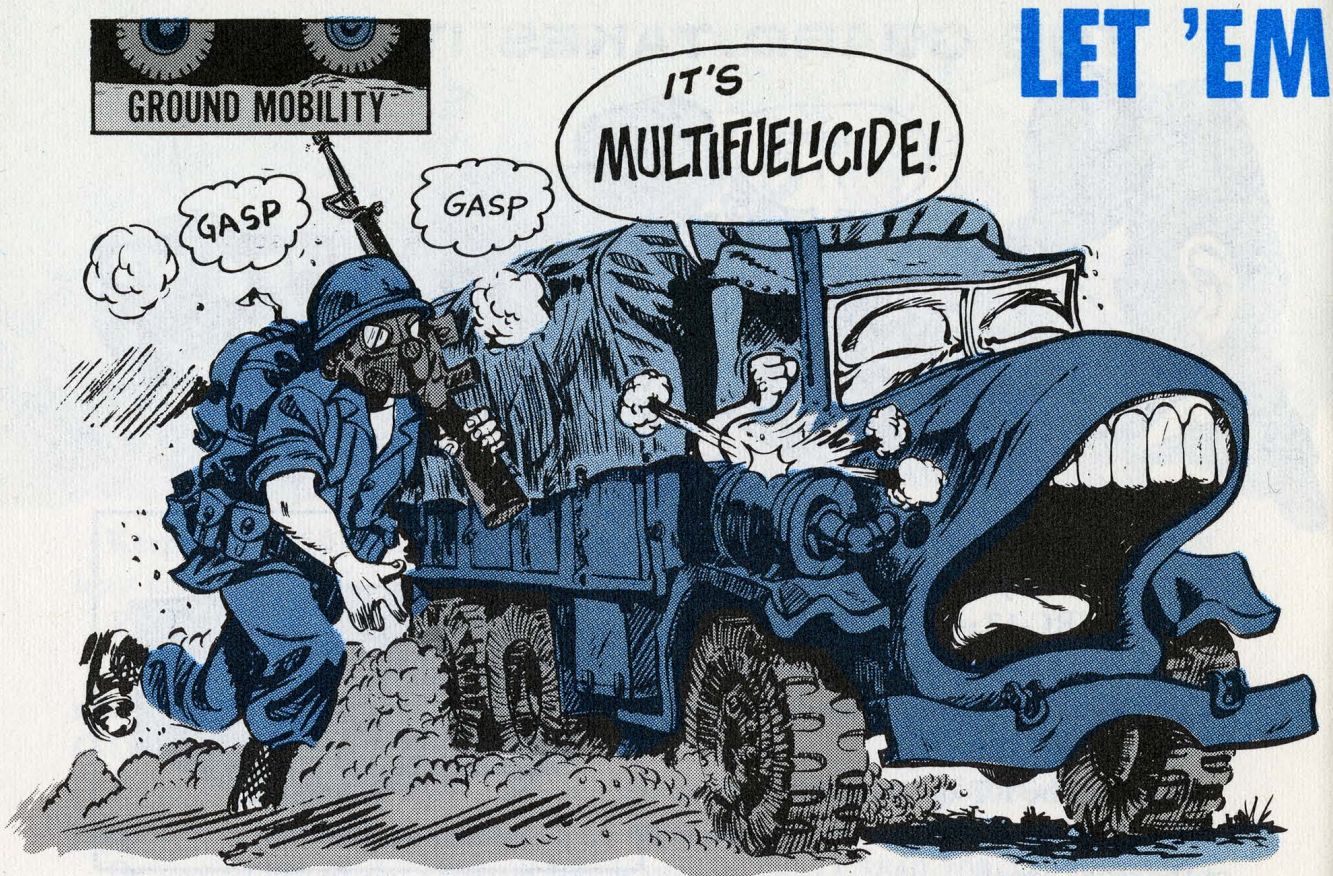
Hardly anybody gets enough.

We mean copies of PS Magazine.

If your unit does not get enough copies of PS to go around, just take a DA Form 12-4 and fill in the number of copies of PS Magazine your unit needs each month. Put your account number on it and shoot it off to the AG Publications Center, Baltimore, 21220.

Then PS will come to your unit via pin-point distribution—every month.

LET 'EM



How'd you like to tackle a forced march with your gas mask inlet fouled up? You wouldn't get far—you'd be fightin' for air, you'd get weak, your legs would buckle and you'd drop in your tracks for sure.

That's about what happens to your multifuel engine truck when its air cleaner gets plugged with dirt . . .

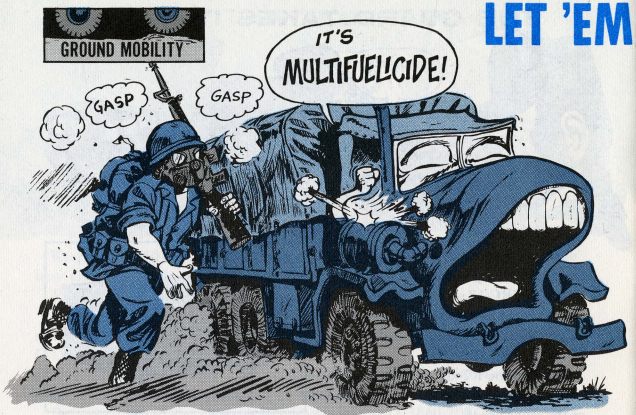
. . . like when you don't clean the filter element **more often** in dusty operations . . .

. . . or you don't do a good job of cleaning when you finally get around to the job.

Figure it this way:

If you get all dirty ridin' up in the cab, your engine air cleaner is gettin' it worse—suckin' in gobs of that dusty air, at about 410 CFM as a matter of fact.

GROUND MOBILITY



How'd you like to tackle a forced march with your gas mask inlet fouled up? You wouldn't get far—you'd be fightin' for air, you'd get weak, your legs would buckle and you'd drop in your tracks for sure.

That's about what happens to your multifuel engine truck when its air cleaner gets plugged with dirt . . .

. . . like when you don't clean the filter element **more often** in dusty operations . . .

. . . or you don't do a good job of cleaning when you finally get around to the job.

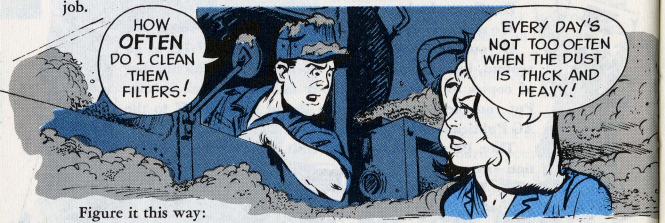
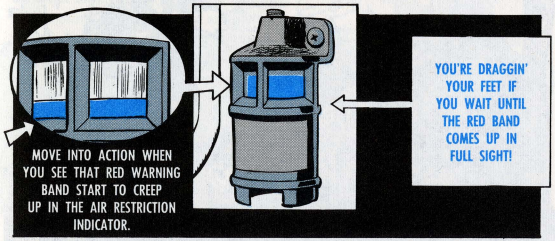


Figure it this way:

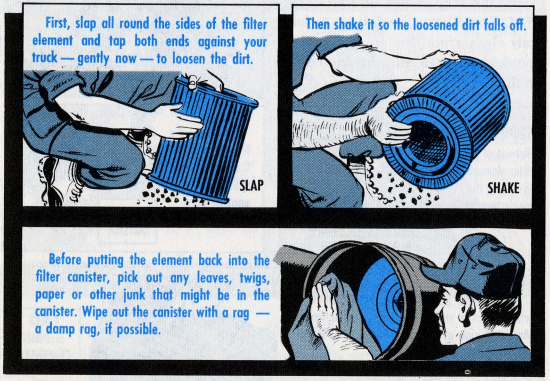
If you get all dirty ridin' up in the cab, your engine air cleaner is gettin' it worse—suckin' in gobs of that dusty air, at about 410 CFM as a matter of fact.

LET 'EM BREATHE EASY

Take a look at your air filter indicator once in awhile. If it shows red, your filter's plugged up and your engine's fightin' for air. So you hop out, just as soon as you can, and give your filter element the ol' emergency treatment.



Black exhaust smoke or poor engine power usually means your air cleaner's in a bad way—even if your air restriction indicator doesn't tell you—so keep an ear 'n' an eye out for those signals to clean your air filter.

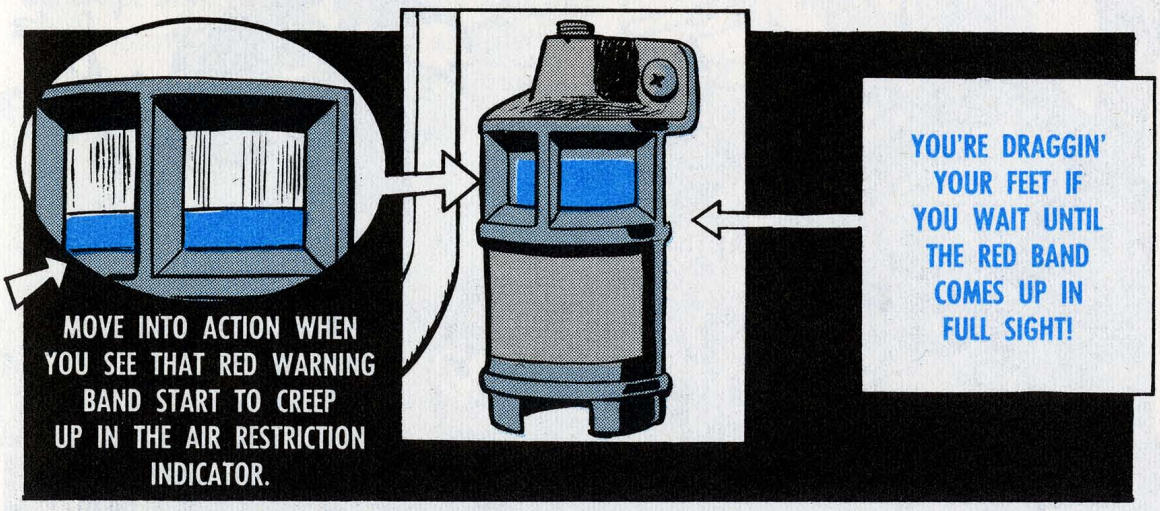


Under real dusty conditions, you might have to go through this routine several times a day to keep your truck breathin' easy.

PS MORE

BREATHE EASY

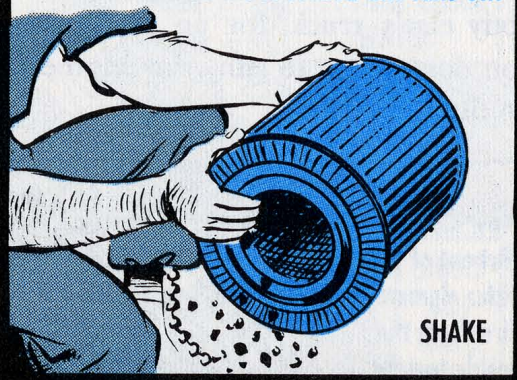
Take a look at your air filter indicator once in awhile. If it shows red, your filter's plugged up and your engine's fightin' for air. So you hop out, just as soon as you can, and give your filter element the ol' emergency treatment.



Black exhaust smoke or poor engine power usually means your air cleaner's in a bad way — even if your air restriction indicator doesn't tell you — so keep an ear 'n' an eye out for those signals to clean your air filter.

First, slap all round the sides of the filter element and tap both ends against your truck — gently now — to loosen the dirt.

Then shake it so the loosened dirt falls off.



Before putting the element back into the filter canister, pick out any leaves, twigs, paper or other junk that might be in the canister. Wipe out the canister with a rag — a damp rag, if possible.

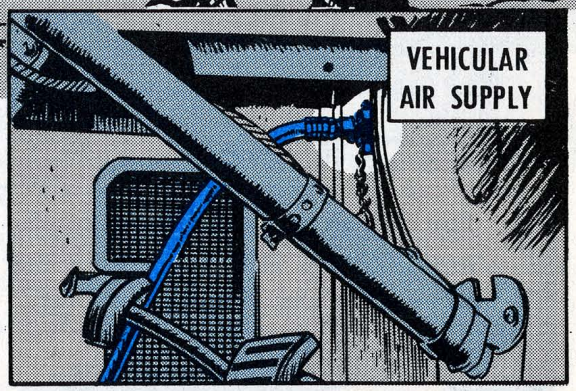
Under real dusty conditions, you might have to go through this routine several times a day to keep your truck breathin' easy.

P.S. MORE

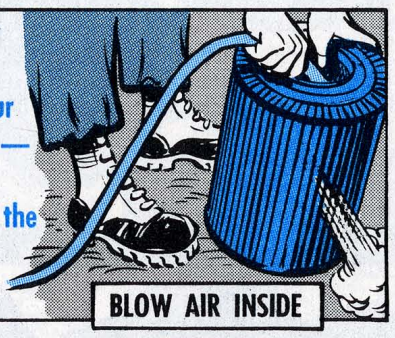
BLOW IT OUT . . .

Back at the motor pool, before you worry about getting yourself clean, haul out that air filter element for a better cleaning.

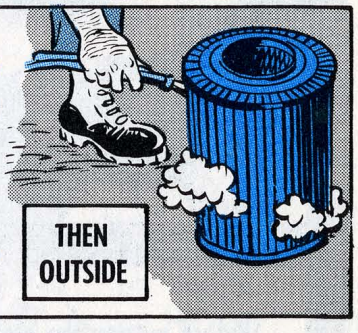
Dig out the air hose in your truck's OEM. You'd better hook it up to somebody else's truck for an air supply — you don't want to run your engine with no filter.



Now blow the dirt out of your filter element — first from the inside toward the outside.

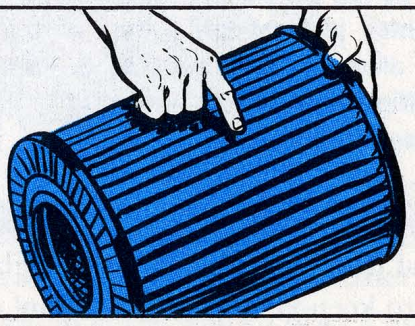


Then give it a blowin' over on the outside and finish up with another blow from the inside.



Before you put 'er back, look the filter element over real close for holes or tears. Any such sign of damage means you replace the element with a good one.

Again, make sure the filter canister's clean inside before installin' the element.



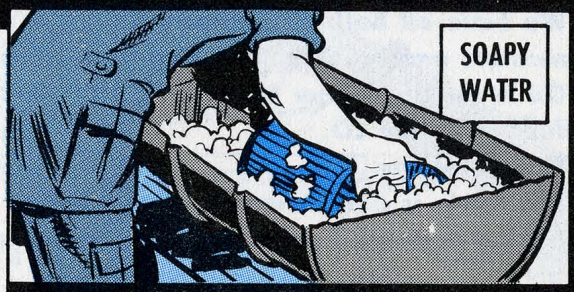
BATH TIME

At least every 1,000 miles, you change your filter element.

But you don't throw your old one away. It may still be good and can be used again after it's washed and dried.

Before washing the filter element, you give it the complete air hose treatment. Then, if your inspection shows no sign of damage, you wash the element, like so:

1. Use detergent and cool, or lukewarm, water in a clean tub or bucket. **Never use gasoline or other solvent to clean the filter element.**
2. Let the filter element soak for 5-10 minutes to loosen the dirt.
3. Then slosh it around to wash off the dirt.
4. Rinse the element in clean water.
5. Shake it good to get most of the water out — and maybe some more dirt at the same time.
6. Look the element over good for holes or other damage you might have missed before.
7. If the filter element's OK, it's good for another round.



DRY . . . DRY . . . DRY

A washed air filter element must be thoroughly dry before it's put back into service (drying may take as much as 3 days in real damp weather). There's a terrific suction through your air filter, and your engine can pull water right out of it — maybe setting up a hydrostatic lock condition in the cylinders.

END

OIL BATH AIR CLEANERS

HOW DIRTY IS DIRTY?

Dear Half-Mast,

We have oil bath air cleaners on some of our vehicles and also on some of our generators and earth-moving and load-lifting engineer equipment.

Oil in the air cleaner reservoir sometimes needs changing in between the intervals called for by the LO.

Two questions:

How dirty is dirty when deciding whether the oil needs changing?

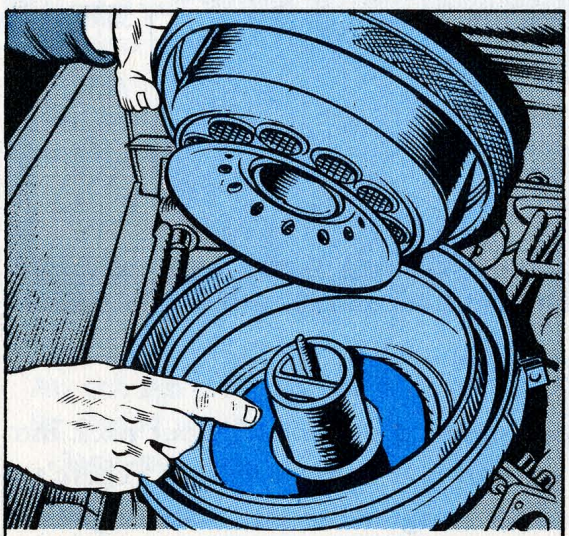
Is used engine oil suitable for use in the reservoir (as some LO's specify)?

COL S. A. R.

Dear Colonel S. A. R.,

There was a time when 1/4 inch of sludge in the bottom of the reservoir was the most allowable.

Now, though, any sludge or grit sitting on the bottom of the reservoir is too much. If a finger, rubbed across the bottom, brings up sludge, it's time to change oil. Rubbing some oil between the fingers may show there's dirt "suspended," or floating, in the oil, but this by itself is not enough reason to change the oil.



LOOK FOR SLUDGE ON THE BOTTOM

Dirt settles to the bottom of the reservoir when the oil becomes so loaded with light, airborne dirt that it can't hold any more. Then the oil doesn't do the job it's supposed to. Dirt carried on into the engine cuts its efficiency—and life.

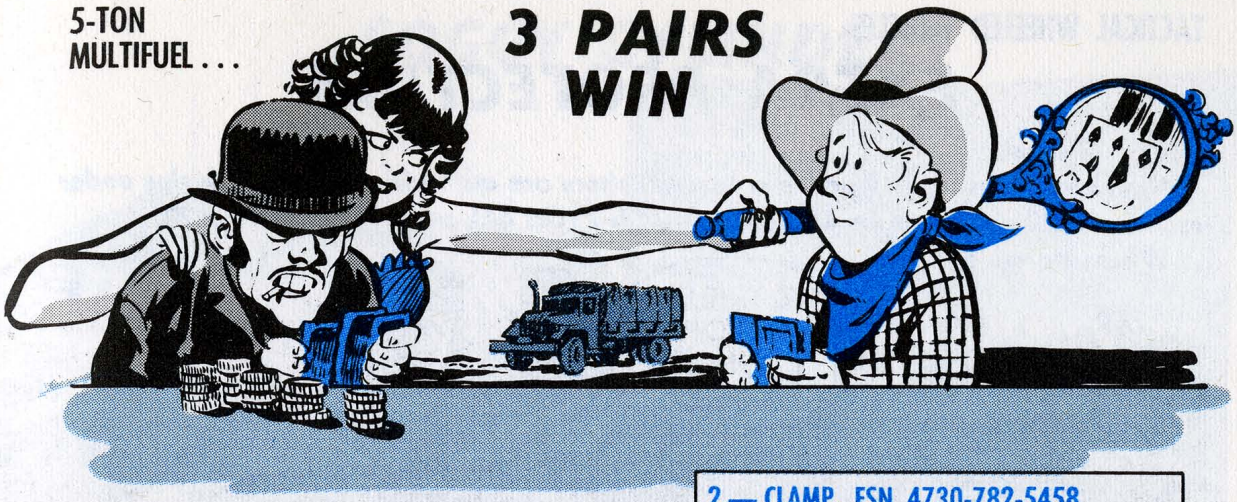
Saving on oil at the expense of an engine—or a mission—is a losing game.

For the same reason, used engine oil in the air cleaner reservoir is out. Older LO's that call for used engine oil will be changed to specify new engine oil.

Half-Mast

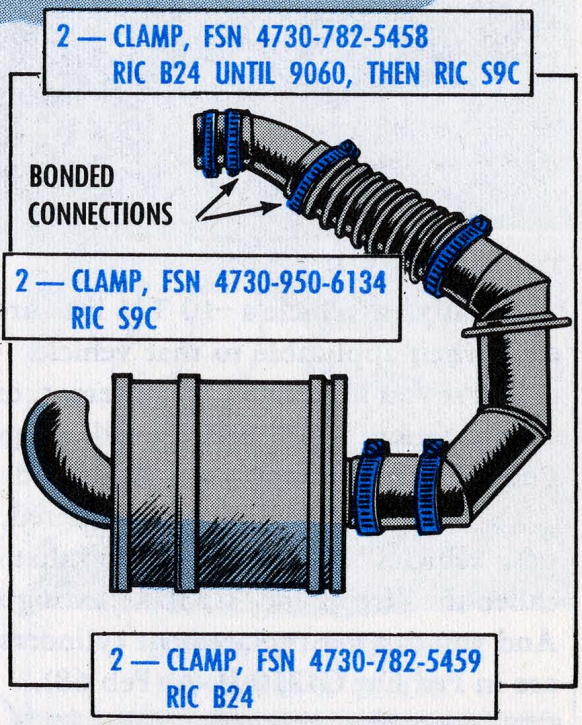
5-TON MULTIFUEL . . .

3 PAIRS WIN



No such thing? Not in poker, but 3 pairs is the winning combination when it comes to clamps for the air intake system on your 5-ton multifuel truck.

These're the clamps between your air cleaner and turbocharger. You've probably got only 4 clamps now, but you'll need 2 more if the 2 bonded hookups come loose, like it says in Article 76, page 39, TB 750-981-3 (Jul 68). You'll be seein' new-production vehicles comin' out with all 6 clamps—2 each of the 3 types.



FSN FOR HOSE

Wonderin' how to get your hands on the preformed hose running from the water pump to the thermostat housing on the 283 cubic inch engine in your M114/M114A1 Scout? Use FSN 2930-570-9659, routing identifier code S9C.

TACTICAL WHEELED VEHICLES . . .

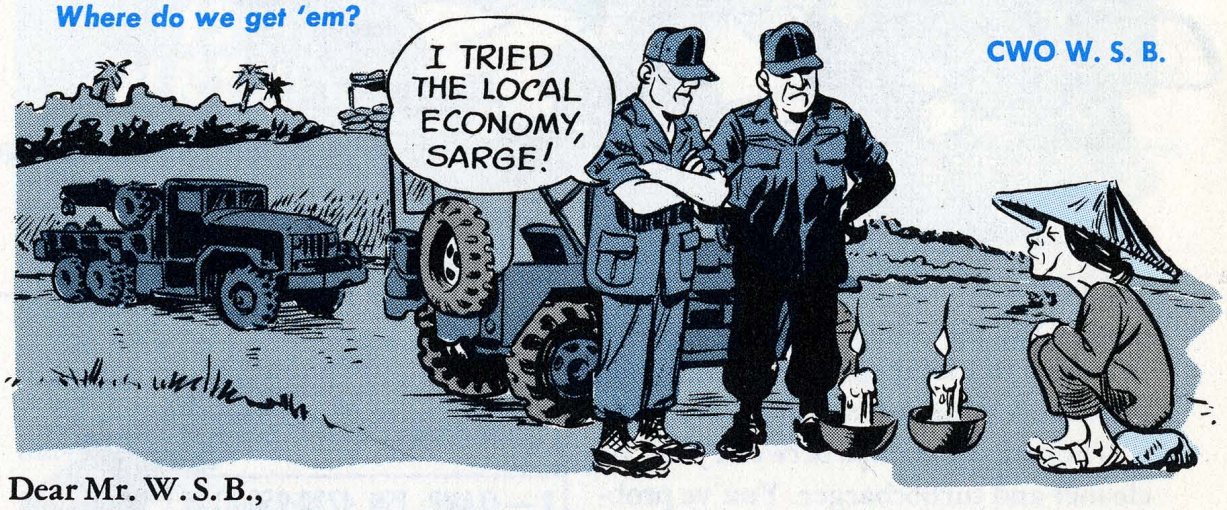
EXTRA PROTECTION

Dear Half-Mast,

Highway warning kits and fire extinguishers are authorized for our vehicles under certain conditions given in AR 385-55 w/Ch 1 (Oct 66), para 19h and para 23.

Where do we get 'em?

CWO W. S. B.



Dear Mr. W. S. B.,

Usually, a vehicle's −10 TM lists fire extinguishers in the OEM (BIIL, OVE, etc.) when applicable to that vehicle.

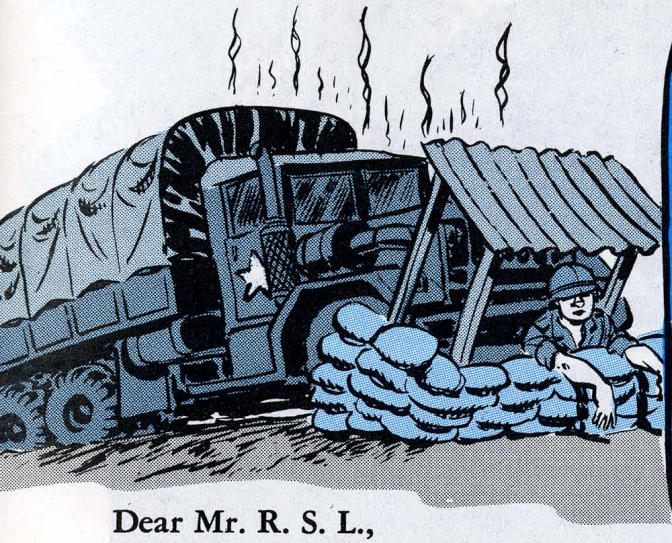
But if you need more, or different, extinguishers to meet your needs under AR authorization, you'll find the full range in TB 5-4200-200-10 (Jun 66), Hand Portable Fire Extinguishers Approved for Army Users.

Of the several extinguishers offered, the one recommended for "general purpose vehicles" is the 2 3/4-lb job that comes under FSN 4210-555-8837 (often called the "freon" or "CF3BR" extinguisher). It comes with a mounting bracket. And you can get replacement cylinders under FSN 4210-708-0031. These items are in Fed Cat C4210-IL-A (Feb 68).

A highway warning kit, like's normally carried on the M543 5-ton wrecker, comes under FSN 9905-534-8376 (with mounting bracket) or FSN 9905-563-7284 (without bracket), listed in Fed Cat C9900-IL-A (Jun 69).

Half-Mast

SOGGY CYLINDERS



Dear Half-Mast,

Air-hydraulic brake cylinders on our M52 truck tractors (and other G744-series 5-ton trucks) are giving us a lot of trouble over here in SEA.

First, sometimes we have to try several — either new or rebuilt — before we get a cylinder that works.

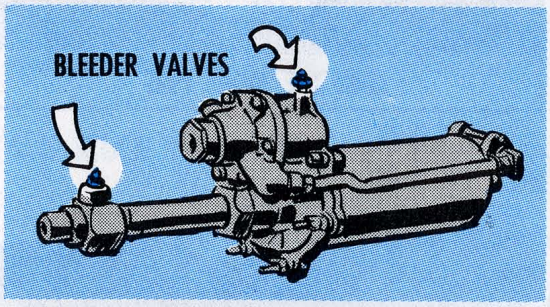
Then, even though we keep 'em lubed with OHC — per Note 18, LO 9-2320-211-12 (Apr 68) — the cylinders poop out faster than our support can rebuild 'em.

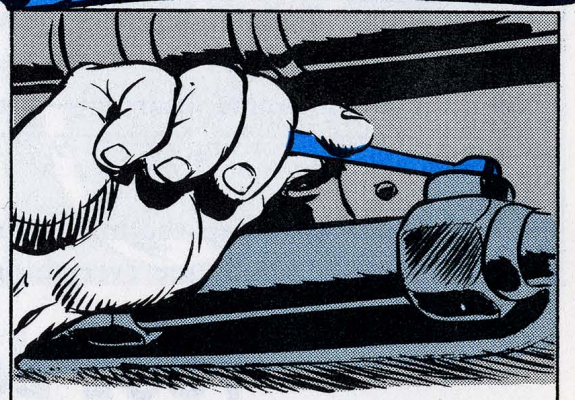
Any helpful hints will be appreciated.

CW2 R. S. L.

Dear Mr. R. S. L.,

Before a newly-installed air-hydraulic cylinder is condemned as a bad one, it'd be best to check 'n' see that it was bled — per paras 180b(6) and 177c in TM 9-2320-211-20 w/Ch 1, 2, 3 & 4 (Nov 68).





BLEEDING THE SYSTEM DURING INSTALLATION IS CRITICAL!

Some "bad" cylinders have been found to be perfectly OK — just a case of the mechanic forgetting to go through that critical bleeding procedure during installation.

Since you're keeping your cylinders well lubed, their short life in service may come from water allowed to build up in the air reservoir tanks.

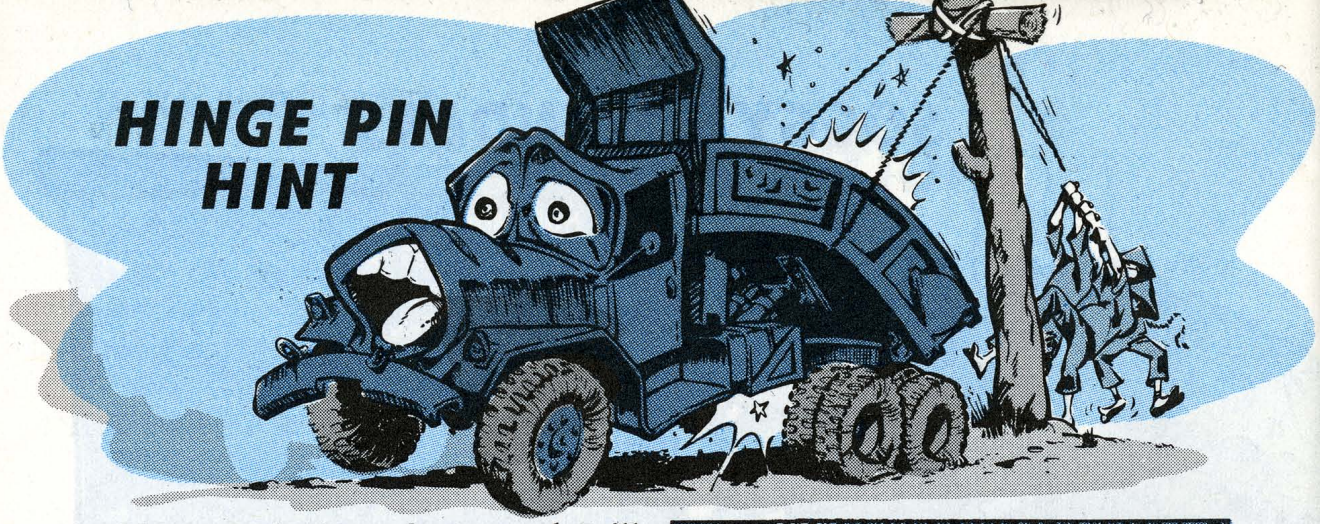
So the hint here is:

Drain air tanks more often — even every coupla hours if condensation is building up that fast.

Half-Mast

DRAIN THE AIR RESERVOIR TANKS

HINGE PIN HINT



Your sturdy 5-ton dump truck will leave you flat someday, if you don't lube the hinge pin regularly.

When a hinge pin on an M51 or M51A2 rusts, it freezes to the sub-frame bearing, cracking the welds.

Coaxin' or cussin' won't help you then. What you'll need is a rewelding job on the sub-frame bearing—and it'll have to be according to TM 9-237 (Nov 67).

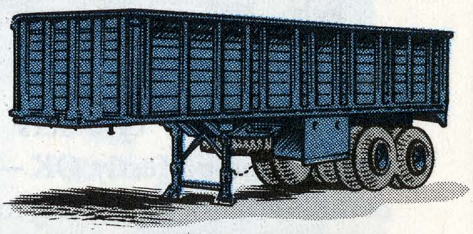
Save the labor. Keep the hinge pin well lubed, and you'll see everything will be jim-dandy.

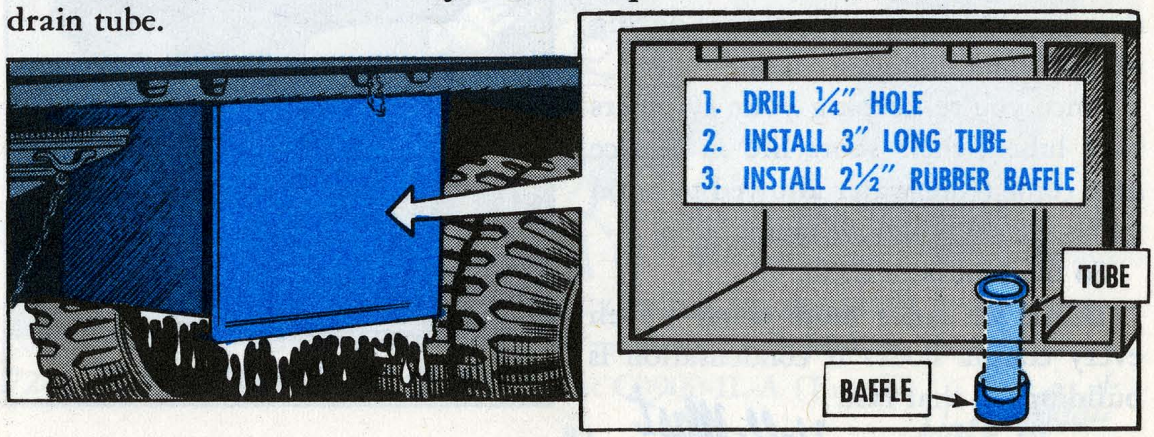
LUBE THE HINGE PINS

TOOL BOX TIP

Water getting into the tool box of your M127A1C or other G750-series 12-ton semitrailer? Don't wait until it rusts away your tool box innards and damages your tarp and chains.

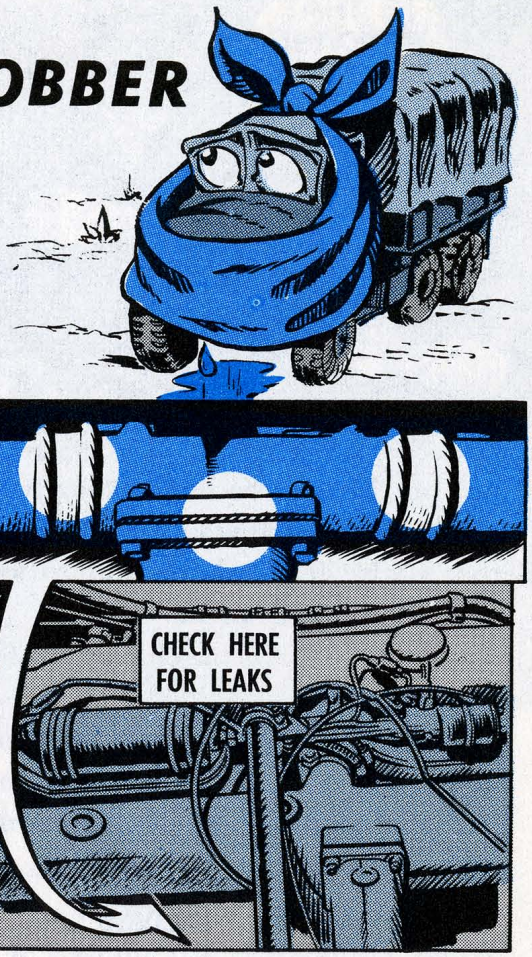
Drill a hole in the rear of the tool box, like it says in Article 97, TB 750-981-3 (Jul 68) and put in a drain tube.





MULTIFUEL ENGINE TRUCK . . .

DIESEL SLOBBER



Like underarm wetness, "diesel slobber" only **looks** bad.

So, maybe you've got trouble and maybe you don't when you spot what seems to be oil leaking out of the exhaust manifold joints on your multifuel engine. Before you holler for help, find out if it's only a case of diesel slobber.

Give your vehicle a good road run. Get your engine up to normal operating temperature. Keep 'er there for a few minutes. Then stop and check your exhaust manifold again.

Still leaking? You may have a sick engine — get help.

No wetness? It was diesel slobber — unburned fuel and condensation, most likely to happen when humidity's high and temperature's low. No problem.

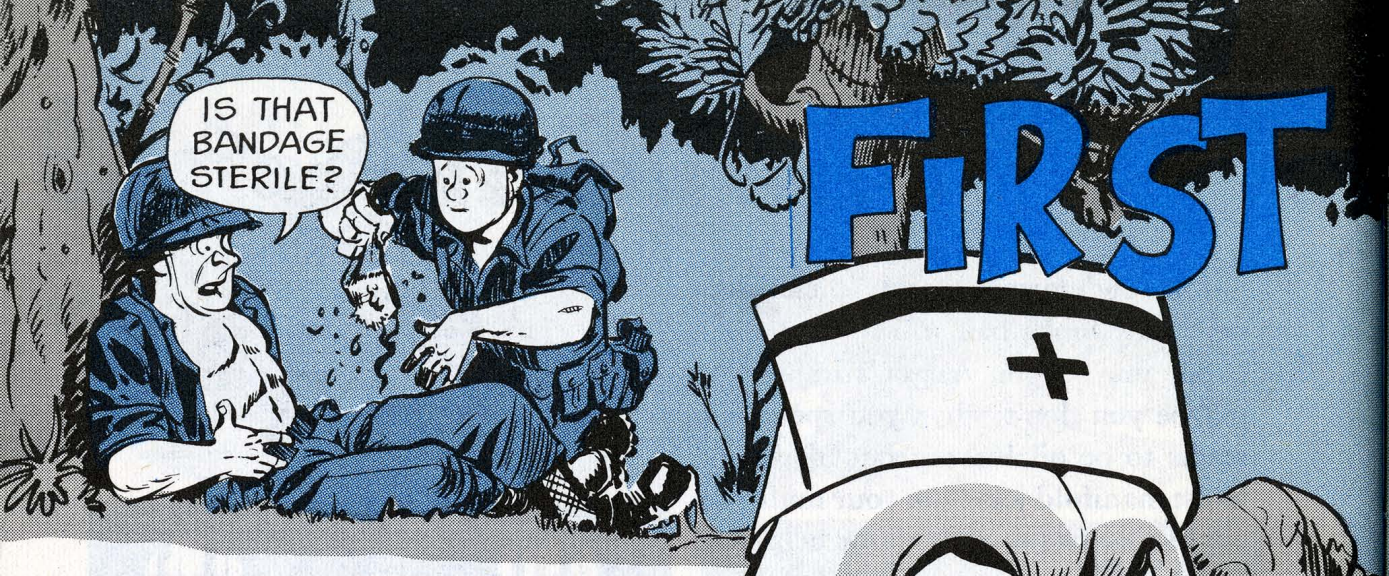
TANK TRUCK 'N' TRAILER . . .

FUEL CHANGES

Dependin' on what kind of fuel you're goin' to haul next, your M49C-series 2 1/2-ton tank truck or M131-series 12-ton tank semitrailer may need cleaning, flushing and a change of filter elements.

Or you may only have to drain out the old type and load up with the new type.

Get the straight dope in FM 10-67 (Oct 68), Petroleum Supply in Theaters of Operations. In Appendix H, you'll find 2 charts telling what you do when switching from one kind of fuel to another. Chart A is for uncoated tanks. Chart B is for coated tanks.



Your life, or the life of your buddy, may depend upon your first aid kit, and that's why it's so important to know how to take care of it.

S-T-E-R-I-L-E is the clue you're looking for.

You have a first aid pouch in which you carry a first aid dressing and a packet of sodium chloride-sodium bicarbonate mixture.

FIRST AID DRESSING

The first aid dressing is just a gauze pad and two gauze strips. It may be the tie-on type, FSN 6510-201-7455, or the pin-on type (2 safety pins), FSN 6510-935-7084. The pad's placed over the wound to stop the loss of blood and body fluids, and it also keeps dirt out of the wound.

The dressing may be packaged in a plastic bag or it may be wrapped in aluminum foil, then it's put in a cardboard outer wrapper. Check that outer wrapper to see if it's in good condition. If it's been damaged, check the inner wrapper to make sure it's air tight.

If you have the dressing that's in the plastic bag, just squeeze it gently to see if there is an air leak. The air should move to one end of the package (like

Your life, or the life of your buddy, may depend upon your first aid kit, and that's why it's so important to know how to take care of it.

S-T-E-R-I-L-E is the clue you're looking for.

You have a first aid pouch in which you carry a first aid dressing and a packet of sodium chloride-sodium bicarbonate mixture.

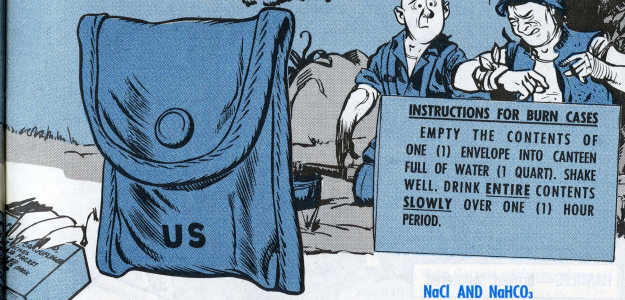
FIRST AID DRESSING

The first aid dressing is just a gauze pad and two gauze strips. It may be the tie-on type, FSN 6510-201-7455, or the pin-on type (2 safety pins), FSN 6510-935-7084. The pad's placed over the wound to stop the loss of blood and body fluids, and it also keeps dirt out of the wound.

The dressing may be packaged in a plastic bag or it may be wrapped in aluminum foil, then it's put in a cardboard outer wrapper. Check that outer wrapper to see if it's in good condition. If it's been damaged, check the inner wrapper to make sure it's air tight.

If you have the dressing that's in the plastic bag, just squeeze it gently to see if there is an air leak. The air should move to one end of the package (like when you're pressing the end of a balloon that has some air in it). But easy does it, so you won't cause a leak in the wrapper.

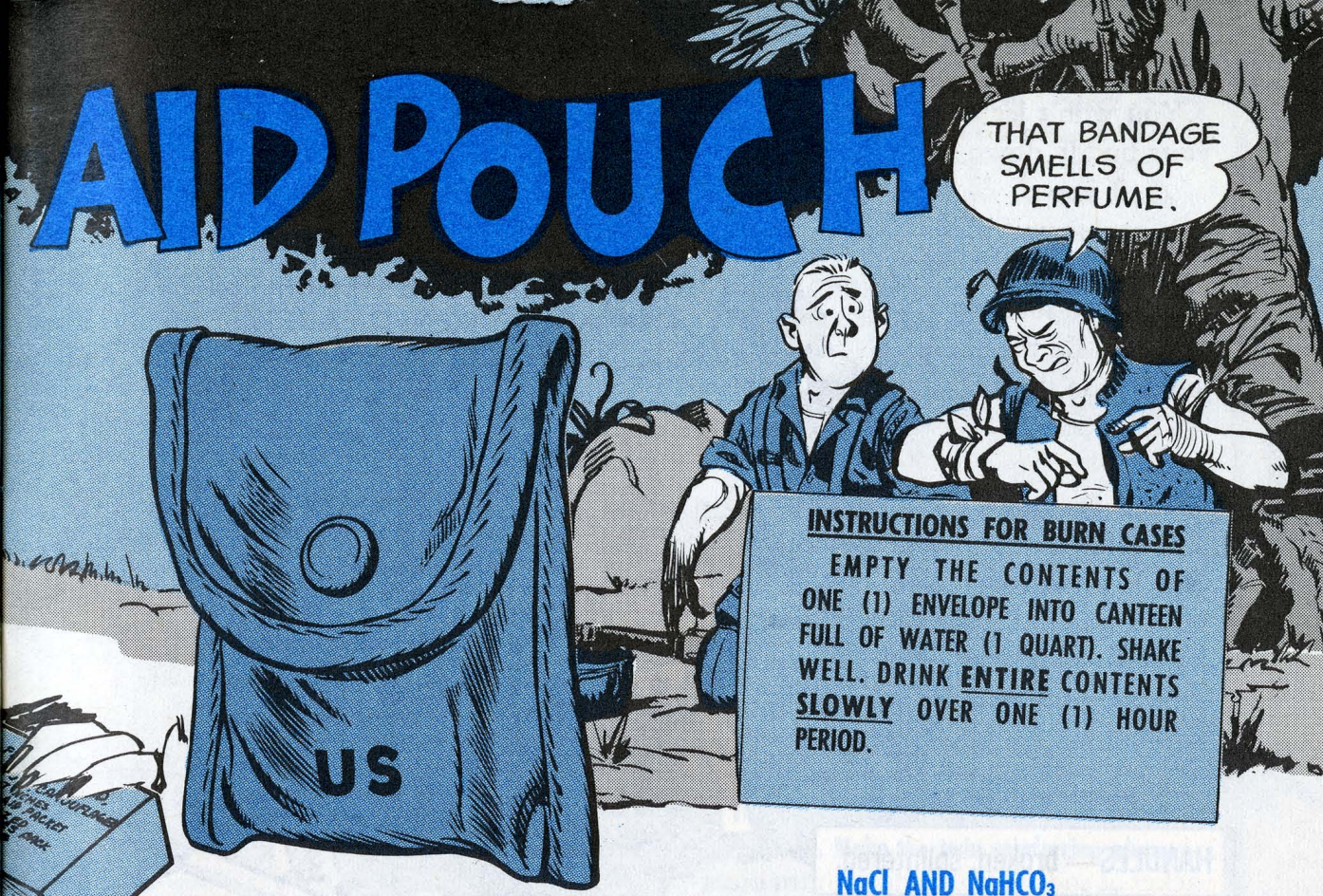
If you have the dressing that has the aluminum foil wrapper, eagle-eye it closely to make sure there are no breaks in it.



NaCl AND $NaHCO_3$

That's just plain old salt plus soda, or if you want to get technical, you can call it sodium chloride-sodium bicarbonate mixture, FSN 6505-663-2636. It's used for injury caused by third degree burns. You get two packets.

You'll have no trouble knowing whether those packets are good or not. Hold 'em up to your ear and shake. If they don't rattle like sand in the package, you'll know there's a leak in the package and it's not good. It should be replaced.



when you're pressing the end of a balloon that has some air in it). But easy does it, so you won't cause a leak in the wrapper.

If you have the dressing that has the aluminum foil wrapper, eagle-eye it closely to make sure there are no breaks in it.

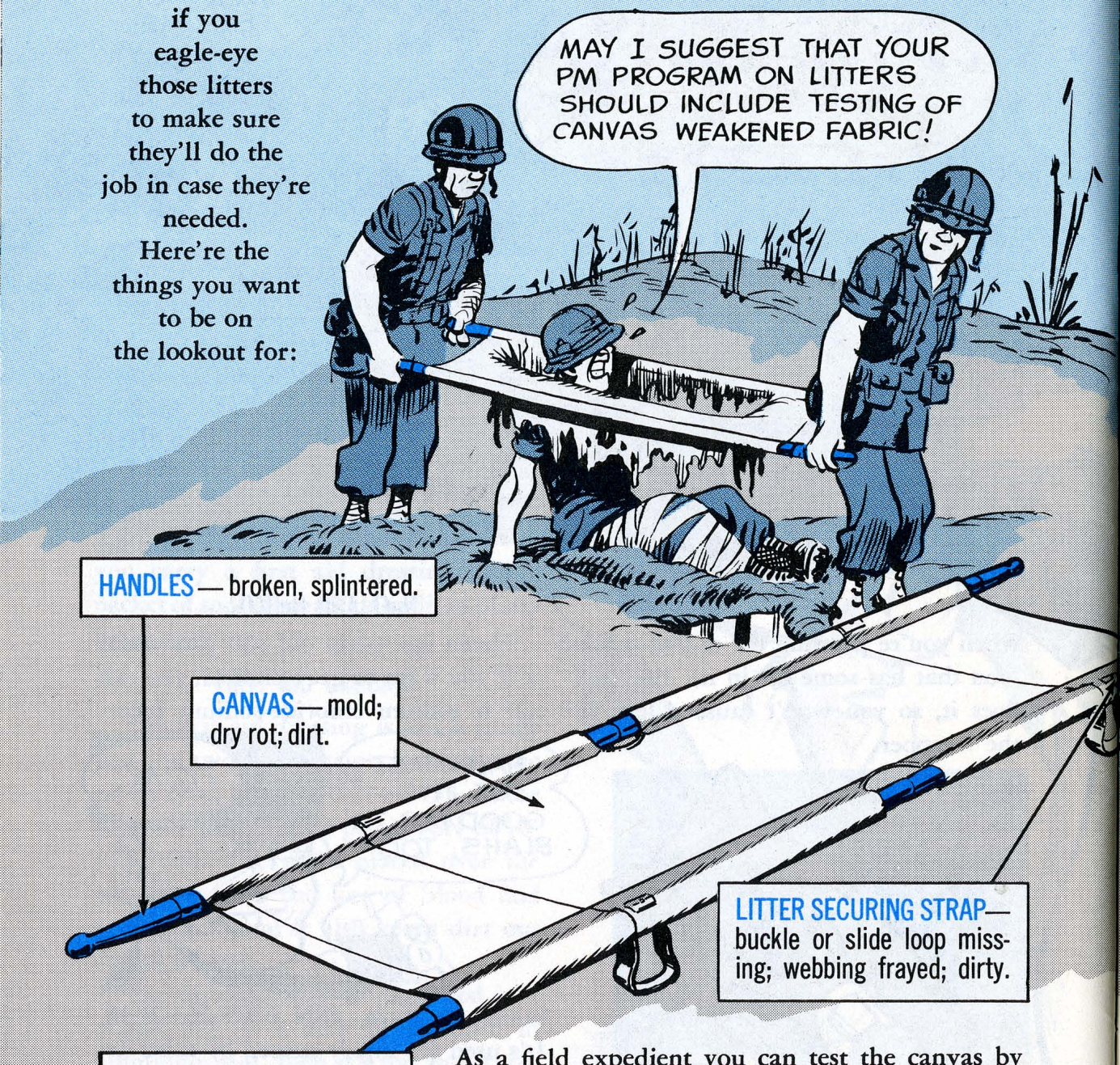
NaCl AND $NaHCO_3$

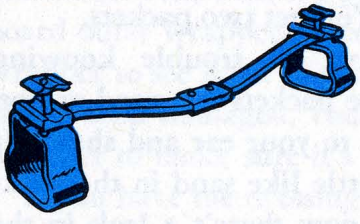
That's just plain old salt plus soda, or if you want to get technical, you can call it sodium chloride-sodium bicarbonate mixture, FSN 6505-663-2636. It's used for injury caused by third degree burns. You get two packets.

You'll have no trouble knowing whether those packets are good or not. Hold 'em up to your ear and shake. If they don't rattle like sand in the package, you'll know there's a leak in the package and it's not good. It should be replaced.

YOUR LITTERS

You won't let your buddy down if you eagle-eye those litters to make sure they'll do the job in case they're needed. Here're the things you want to be on the lookout for:





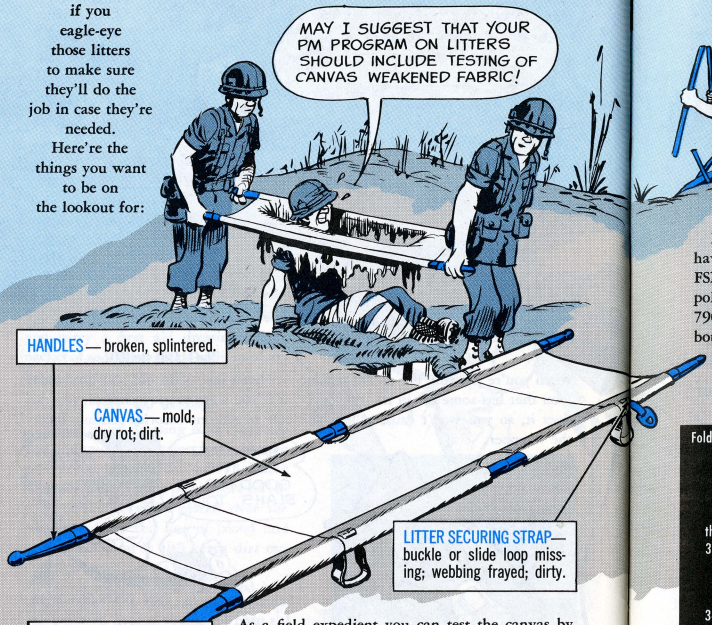
SPREADER BAR AND STIRRUPS — bent.

As a field expedient you can test the canvas by having the heaviest man in your outfit put his full weight on one knee on the canvas. If it rips or tears it should be replaced.

You can repair small holes in the litter cover by patching it with the material you find in the tentage repair kit, FSN 8340-262-5767. If there's any doubt as to whether the canvas is strong enough to hold a 250-lb load, don't take a chance, replace the cover.

YOUR LITTERS

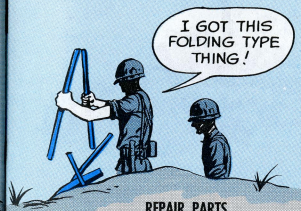
You won't let your buddy down if you eagle-eye those litters to make sure they'll do the job in case they're needed. Here're the things you want to be on the lookout for:



As a field expedient you can test the canvas by having the heaviest man in your outfit put his full weight on one knee on the canvas. If it rips or tears it should be replaced.

You can repair small holes in the litter cover by patching it with the material you find in the tentage repair kit, FSN 8340-262-5767. If there's any doubt as to whether the canvas is strong enough to hold a 250-lb load, don't take a chance, replace the cover.

UP TO SNUFF?



REPAIR PARTS

It doesn't matter whether you have the folding pole folding litter, FSN 6530-783-7205, or the rigid pole folding litter, FSN 6530-783-7905, you can get repair parts for both.

Here's what you ask for:

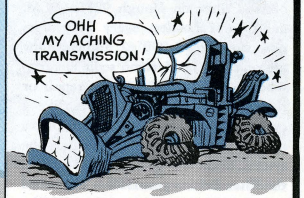
Folding Pole Folding Litter, FSN 6530-783-7205

- Cover, Litter, FSN 6530-784-1035
- Handle, Litter (wood), FSN 6530-784-2010
- Headless Nail, FSN 5315-784-2170 (Order through medical channels — listed in Fed Cat 3000/6300-IL)
- Litter Securing Strap, FSN 6530-784-4105
- Spreader Bar and Stirrups, FSN 6530-784-3450

Rigid Pole Folding Litter, FSN 6530-783-7905

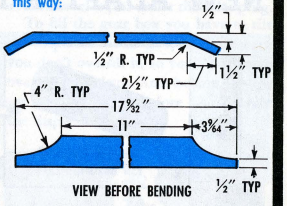
- Cover, Litter, FSN 6530-784-1250
- Handle, Litter (wood), FSN 6530-784-2010
- Headless Nail, FSN 5315-784-2170
- Spreader Bar and Stirrups, FSN 6530-784-3450.

290M TRACTOR BRACKET FIX

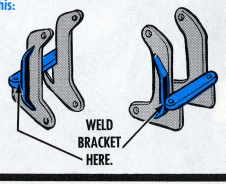


Transmission support brackets cracking on your 290M? Then it's time to get your soft-hearted support mechanics to put on reinforcements.

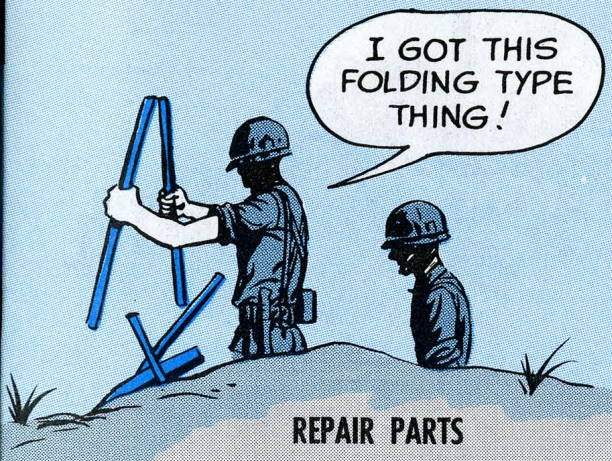
You do it with 2 strips of Type 1020 hot rolled steel. Make the twin reinforcing pieces this way:



Then the braces go on the rear side of each bracket, welded with a good, solid seam, like this:



UP TO SNUFF?



REPAIR PARTS

It doesn't matter whether you have the folding pole folding litter, FSN 6530-783-7205, or the rigid pole folding litter, FSN 6530-783-7905, you can get repair parts for both.

Here's what you ask for:

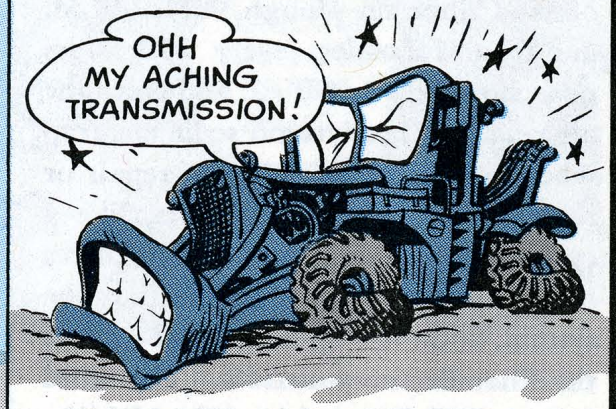
Folding Pole Folding Litter, FSN 6530-783-7205

- Cover, Litter, FSN 6530-784-1035
- Handle, Litter (wood), FSN 6530-784-2010
- Headless Nail, FSN 5315-784-2170 (Order through medical channels — listed in Fed Cat 3000/6300-IL)
- Litter Securing Strap, FSN 6530-784-4105
- Spreader Bar and Stirrups, FSN 6530-784-3450

Rigid Pole Folding Litter, FSN 6530-783-7905

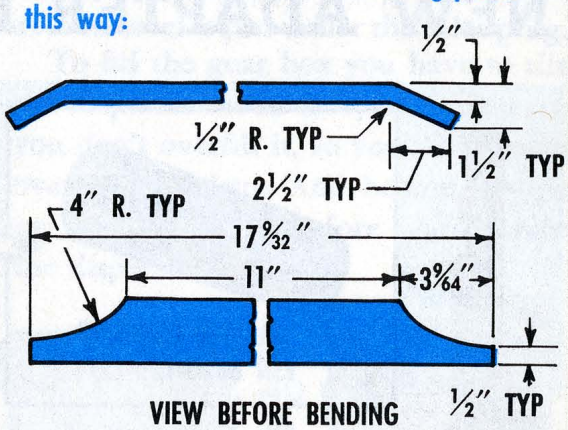
- Cover, Litter, FSN 6530-784-1250
- Handle, Litter (wood), FSN 6530-784-2010
- Headless Nail, FSN 5315-784-2170
- Spreader Bar and Stirrups, FSN 6530-784-3450.

290M TRACTOR BRACKET FIX



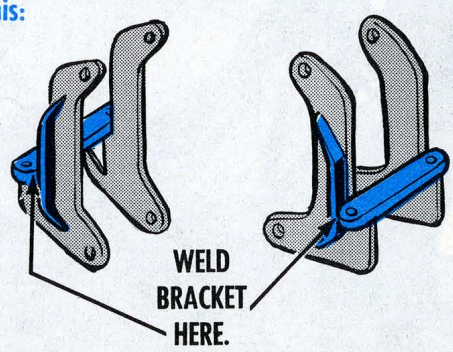
Transmission support brackets cracking on your 290M? Then it's time to get your soft-hearted support mechanics to put on reinforcements.

You do it with 2 strips of Type 1020 hot rolled steel. Make the twin reinforcing pieces this way:



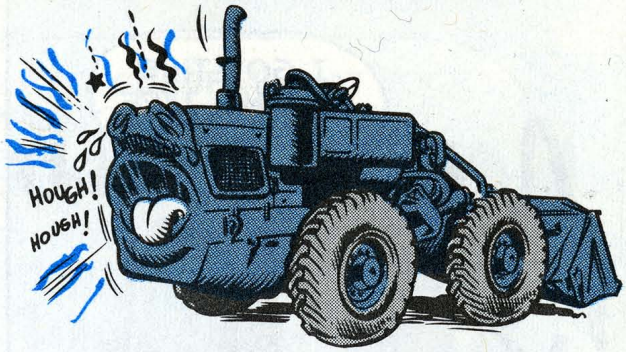
VIEW BEFORE BENDING

Then the braces go on the rear side of each bracket, welded with a good, solid seam, like this:

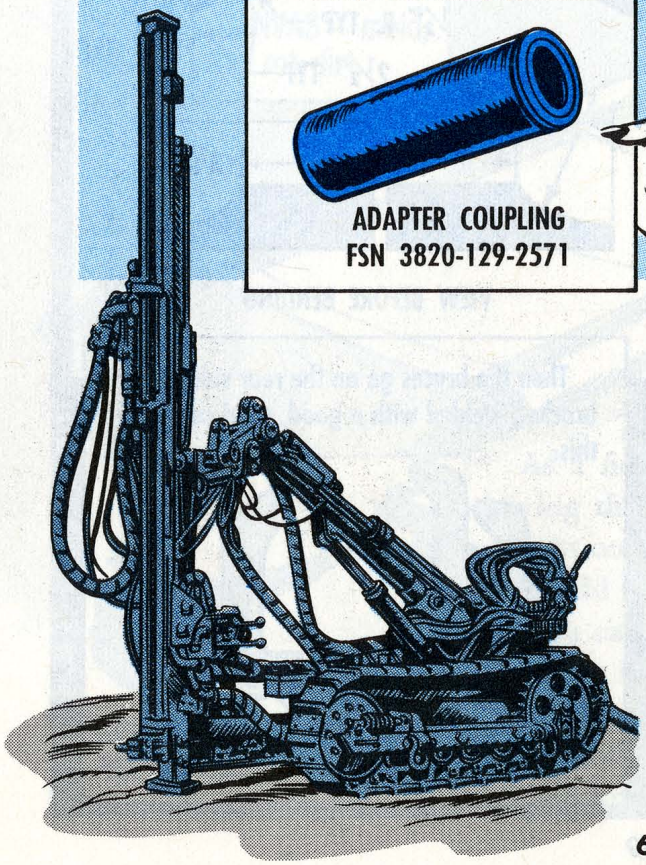


HOUGH LOADER ANTI-HUFF DOPE

Hey, Operator—change hydraulic oil and filter on Hough 90M, 90CM, and H60M Loaders every 250 hours now, not every 1,000 . . . and clean the oil tank and honeycomb sediment trap when you do. If you have to repair or replace major hydraulic parts, like a cylinder or packing, and dirt or pieces of packing may have gotten into the system, drain out all the oil and replace the filter before you refill. The word is in the EIR Digest from USA Mobility Equipment Command for October 1968. See TB 750-971-4, page 20, chapter 3, para 46 for authorization, as well as in upcoming changes to the 3 lubrication orders.



NEW ADAPTER FOR OLD DRILLS



Impossible to use reverse-buttress 1 1/2-in tools on rope-threaded crawler drills?

No more. Those older Type 60 bits, striker bars, drill steels and such can work now.

Just order Adapter Coupling, 1 1/2-in rope thread to 1 1/2-in reverse buttress thread, code 30760, P/N JRA-32, FSN 3820-129-2571. The new piece comes from U. S. Army Mobility Equipment Command to fit all Army 225-lb class crawler rigs.

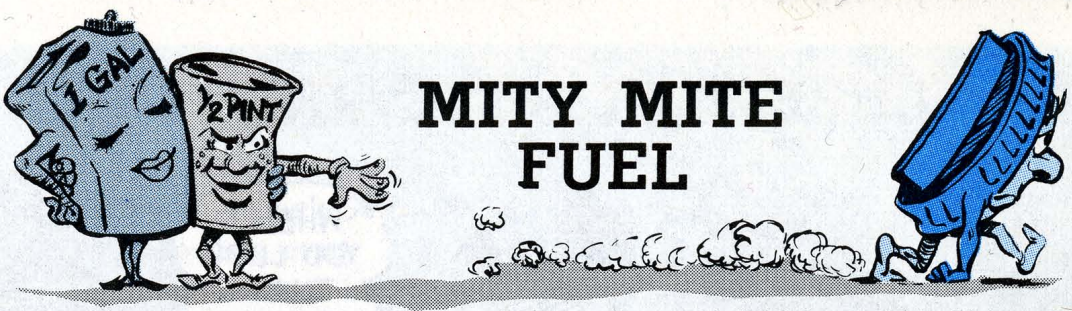
LUBE THE MITE RIGHT

When you use the M106 portable disperser (Mity Mite), be sure to check the gear-box lube daily, or else you'll soon be minus your handy disperser. The gear-box-blower assembly will konk out on you.

The Mite, in fact, is authorized a warning decal, FSN 7690-800-0687 to help you remember the daily lube check. Order it using RIC B54.

In case you've missed it, the oil filler plug is on the side of the gear box, just under the muffler flange, and you have to use the Mite's socket key to remove the plug. The disperser takes Lubricating Oil, general purpose, corrosion resistant, symbol LO (FSN 9150 - 252 - 6174) and when it's sitting up its correct oil level is just under the filler plug.

To fill the gear box you have to tilt the disperser on its side, but take care you don't overfill it, so you'll not have overflow problems. And, be sure to wipe up any spilled oil before you operate the disperser.

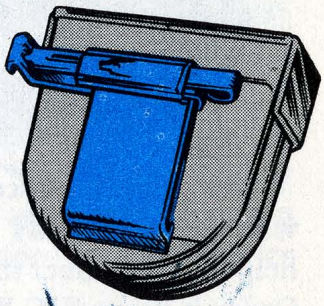


MITY MITE FUEL

The correct fuel mix for the engine on the M106 (Mity Mite) disperser is: 1/2 pint of oil (OE 30) to 1 gallon of gas. But, some goofed-up gas-tank caps call for only 1/4 pint of oil. That kind of mix will damage the Mite's 2-cycle engine. So, check your disperser's gas cap soonest and chuck it if it doesn't read right. Replace it with the spare cap, FSN 2910-560-0119, authorized in the disperser's BIIL. See page 50, TM 3-1040-254-13 (Apr 68).

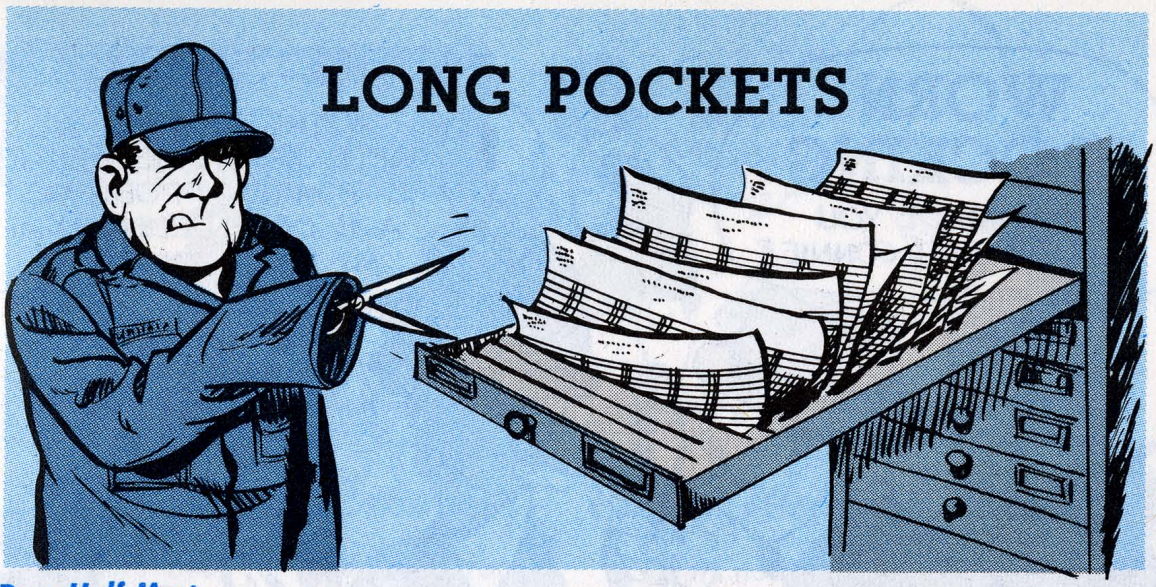
M2 COMPASS CARRY-CLIP

There's a new hold-on for M2 Compasses now — hooks the case loop to suspenders or pistol belt. It's FSN 5340-753-5580, Keeper, W/Slide. Take your compass out of the case, pry up rear loop, slip keeper thru it with jaws open, snap the catch 'n' replace compass — and you'll drop fewer M2's in the mud.



PACKAGE HEX

If you're hexed by a part or component that was damaged because the shipping package wasn't put together right, lay your hands on DA Pam 700-3 (Feb 69). It tells you all about filling in DD Form 6 on faults in packaging for shipment.



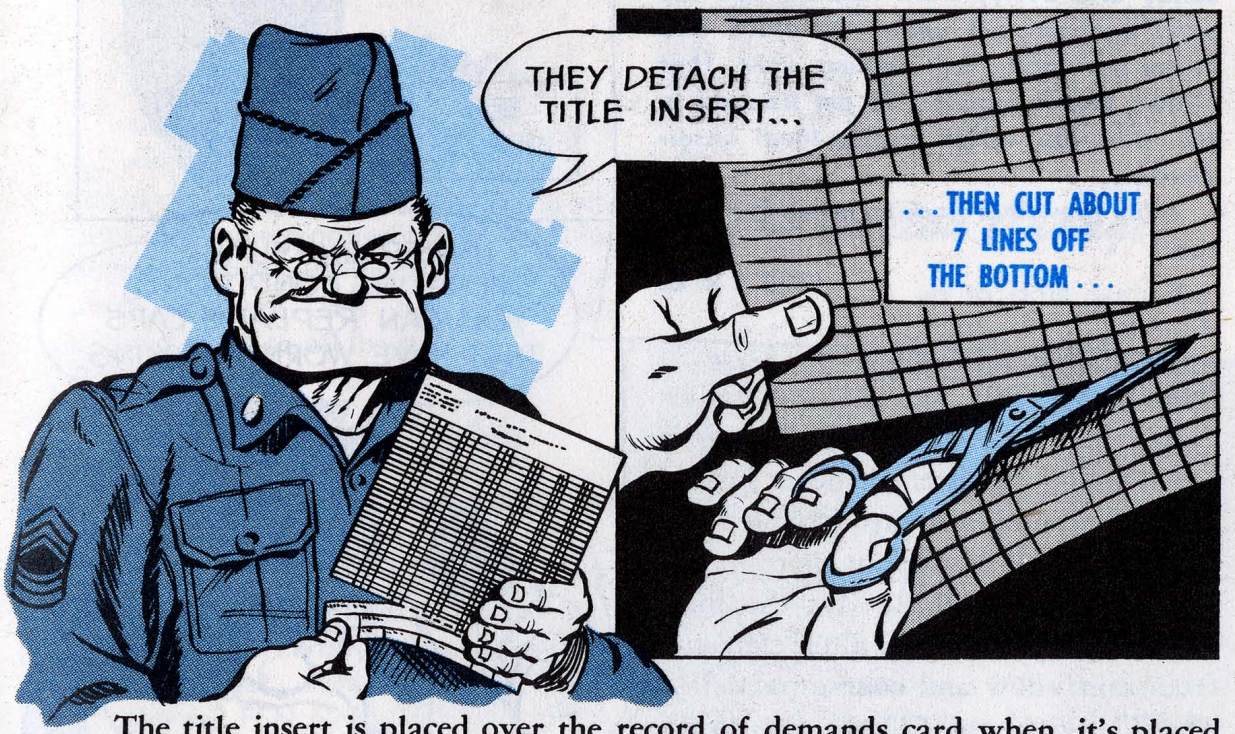
Dear Half-Mast,

What's the FSN for the 8x8-in visible index pockets that'll take the new DA Form 3318, Record of Demands — Title Insert card?

CW3 C. E. R.

Dear Mr. C. E. R.,

For now, the longer pockets are available only through local purchase (AR 715-30). Where local merchants aren't handy, though, some units get local OK to trim the new card to fit the 8x5-in pockets.



The title insert is placed over the record of demands card when it's placed in the pocket.

If you can buy 'em locally, be sure to provide complete identification on your filing equipment so you'll get pockets with the proper attaching hardware.

Half-Mast

WORN FLOCKING

—WHAT MADE YOU SUSPECT THAT, CONNIE?

?

!

IN THE TROPICS, AS WELL AS IN THE ARCTIC, M-17 MASK PROBLEMS ARE OFTEN ELEMENTARY, MY DEAR WATSON.

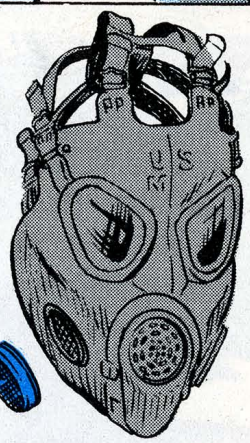
Dear Half-Mast,

TM 3-4240-202-14 (Nov 68), in the PM check list for the M17 mask, says inlet valve caps with worn flocking are OK—except in the Arctic. But here in VN where it's sandy and dusty, worn flocking lets the sand and dirt get under the valve and keeps the valve from seating right. That allows breath moisture to get trapped in the elements, which makes them unserviceable.

A full growth of flocking is needed here, too.

CW2 J. R. U.

M17
PROTECTIVE MASK



UNDER UNUSUAL OPERATING CONDITIONS, YOU CAN REPLACE CAPS THAT HAVE WORN FLOCKING.

Dear Mr. J. R. U.,

Anytime the weather, sand or grit can damage the filter elements in any way, you can replace caps having worn flocking. The OK is right there in the TM's para 1-6h(2). It says the inlet valve caps protect the filter elements from rain, snow and **coarse particles.** The TM gives the CO the OK to do other organizational maintenance as needed. See para 3-1f.

Half-Mast

Connie Rodd's BRIEFS

No More Lube

No more GAA for that air-hydraulic cylinder in your G742-series 2½-ton truck. That's the word in US Army Tank-Automotive Command TWX 1-11816 (28 Jan 69). So forget Note 20 in LO 9-2320-209-12 (Oct 68). The TWX gives instructions for direct support to clean and service your brake system if your air-hydraulic cylinder has been lubed with GAA.

Nut On The Loose . . .

. . . and dangerous, too. This's the steering wheel shaft nut on some M715 1¼-ton trucks and M725 ambulances. Some loose nuts have cropped up, so it's in the interest of your own life and limb to have yours checked. This nut should be torqued to 45 to 60 lbs-ft.

Rotating Lights

Have y'got a need—**and authorization**—for a rotating amber light on your wrecker truck? FSN 6220-947-7570 is the 24-volt job for most military-design wreckers. For 12-volt commercial design wreckers, get FSN 6220-947-7535. Need blue? FSN 6220-947-7621 is 24-volt, and FSN 6220-947-7572 is 12-volt. RIC is S9G.

Mig Welding Movie

Welders note—Don't miss out on the new MIG welding training film. It's TF 9-3973, Metal Inert Gas Welding. It's in black and white and 26 minutes long. Check with the nearest audio-visual communications center for a copy of the TF.

New CMMI Guide

Next time your CMMI team drops in it'll be using the new inspection guidelines in DA Pam 750-10 (Jan 69). Scan through it first chance you get and stay on top—'stead of behind—the AR 750-8 ball.

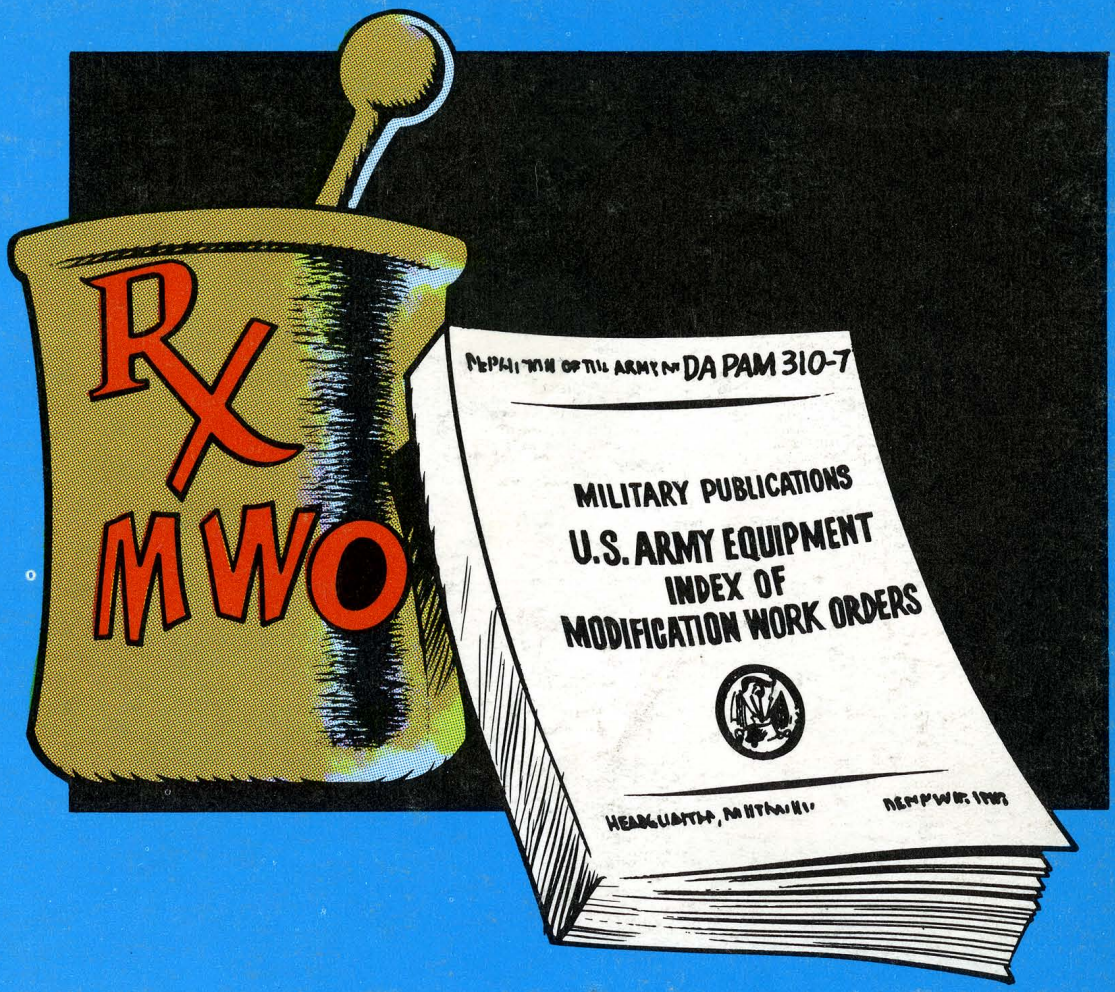
Calibration Change

You can keep up to date with the latest word on calibration if you get hold of Change 1 (Feb 69) to TB 750-236 (Sep 68), Calibration Requirements for the Maintenance of Army Materiel.

Operator's Record

Better get hold of Ch 1 (Oct 68) to TM 21-300 (Jul 67), Driver Selection and Training (Wheeled Vehicles), if it's your job to fill out DA Form 348, Equipment Operator's Qualification Record. It gives a sample of a 348 filled out, along with other info about the form.

Would You Stake Your Life right now on the Condition of Your Equipment?



When your equipment needs an MWO... how do you know?

DA Pamphlet 310-7 is your Index to Modification Work Orders

READ IT AND REAP!